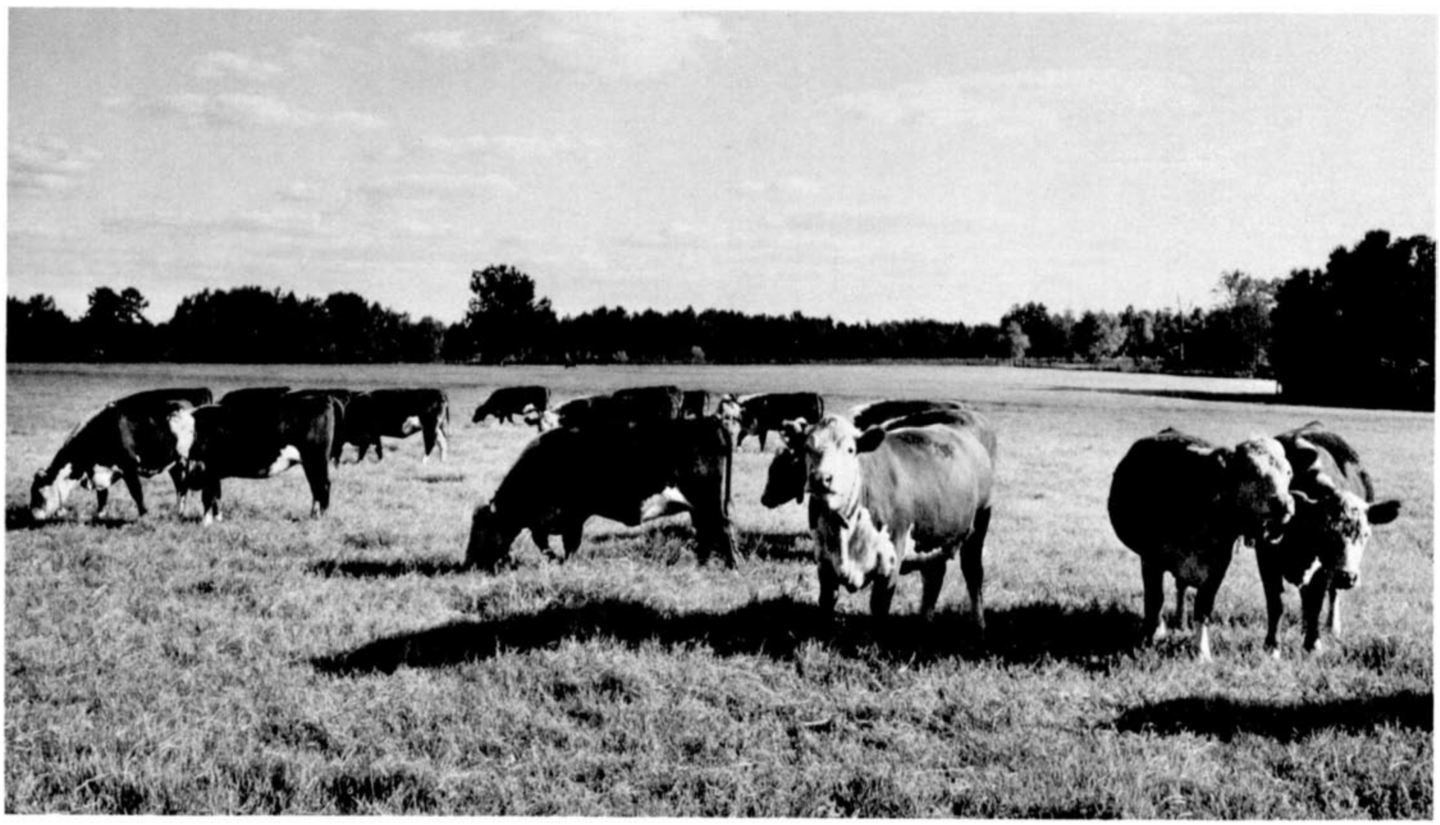
SOIL SURVEY OF

Schley and Sumter Counties, Georgia



United States Department of Agriculture
Soil Conservation Service
In cooperation with
University of Georgia, College of Agriculture
Agricultural Experiment Stations

Issued August 1974

Major fieldwork for this soil survey was done in the period 1965–68. Soil names and descriptions were approved in 1969. Unless otherwise indicated, statements in the publication refer to conditions in the counties in 1968. This survey was made cooperatively by the Soil Conservation Service and the University of Georgia, College of Agriculture, Agricultural Experiment Stations. It is part of the technical assistance furnished to the Lower Chattahoochee River Soil and Water Conservation District.

Either enlarged or reduced copies of the soil map in this publication can be made by commercial photographers, or they can be purchased on individual order from the Cartographic Division, Soil Conservation Service, United States Department of Agriculture, Washington, D.C. 20250.

HOW TO USE THIS SOIL SURVEY

THIS SOIL SURVEY contains information that can be applied in managing farms and woodlands; in selecting sites for roads, ponds, buildings, and other structures; and in judging the suitability of tracts of land for farming, industry, and recreation.

Locating Soils

All the soils of Schley and Sumter Counties are shown on the detailed map at the back of this publication. This map consists of many sheets made from aerial photographs. Each sheet is numbered to correspond with a number on the Index to Map Sheets.

On each sheet of the detailed map, soil areas are outlined and are identified by symbols. All areas marked with the same symbol are the same kind of soil. The soil symbol is inside the area if there is enough room; otherwise, it is outside and a pointer shows where the symbol belongs.

Finding and Using Information

The "Guide to Mapping Units" can be used to find information. This guide lists all the soils of the two counties in alphabetic order by map symbol and gives the capability classification of each. It also shows the page where each soil is described and for the woodland group in which the soil has been placed.

Individual colored maps showing the relative suitability or degree of limitation of soils for many specific purposes can be developed by using the soil map and the information in the text. Translucent material can be used as an overlay over the soil map and colored to show soils that have the same limitation or suitability. For example, soils that have a slight limitation for a given use can be colored green, those with a moderate limitation can be colored yellow, and those with a severe limitation can be colored red.

Farmers and those who work with farmers can learn about use and management of the soils from the soil descriptions and from the discussions of the capability units and woodland groups.

Foresters and others can refer to the section "Use of the Soils as Woodland," where the soils of the counties are grouped according to their suitability for trees.

Game managers, sportsmen, and others can find information about soils and wildlife in the subsection "Use of the Soils for Wildlife Habitat."

Community planners and others can read about soil properties that affect the choice of sites for nonindustrial buildings and for recreation areas in the subsection "Use of the Soils for Town and Country Planning."

Engineers and builders can find, under "Engineering Uses of the Soils," tables that contain test data, estimates of soil properties, and information about soil features that affect engineering practices.

Scientists and others can read about how the soils formed and how they are classified in the section "Formation and Classification of Soils."

Newcomers in Schley and Sumter Counties may be especially interested in the section "General Soil Map," where broad patterns of soils are described. They may also be interested in the information about the counties given at the beginning of the publication and in the section "Additional Facts About the Counties."

Cover: **Hereford cattle grazing Coastal bermudagrass in a well-managed pasture. The soil is Tifton sandy loam, 2 to 5 percent slopes, eroded.**

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SOIL SURVEY OF SCHLEY AND SUMTER COUNTIES, GEORGIA

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UNITED STATES DEPARTMENT OF AGRICULTURE IN COOPERATION WITH THE UNIVERSITY OF GEORGIA, COLLEGE OF AGRICULTURE, AGRICULTURAL EXPERIMENT STATIONS

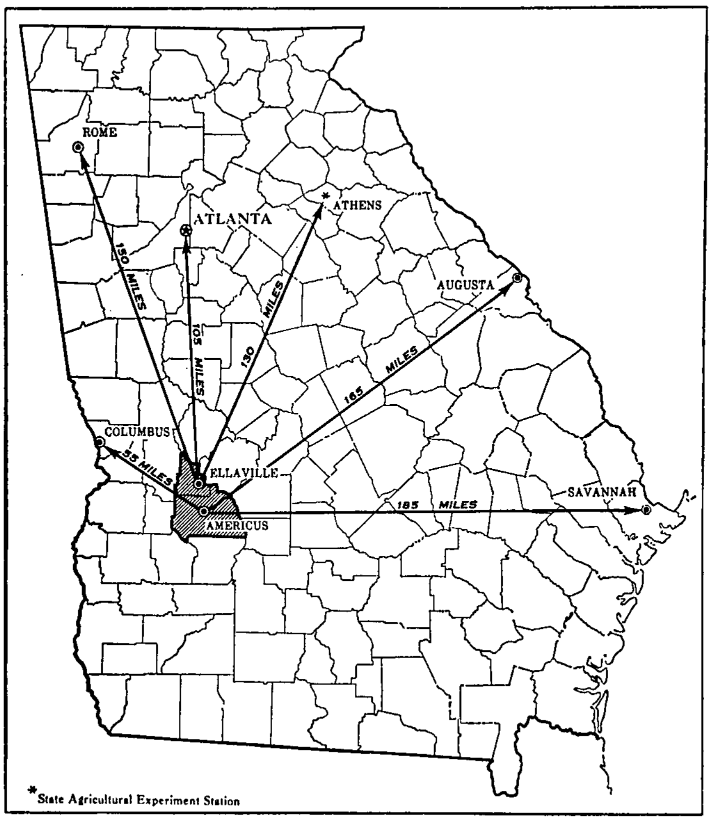

Figure 1.—Location of Schley and Sumter Counties in Georgia.

SCHLEY AND SUMTER COUNTIES are in the Southwestern part of Georgia (fig. 1). The two counties are within the Southern Coastal Plain Land Resource Area, except for the northern part of Schley County, which is within the Carolina and Georgia Sand Hills Resource Area. These counties have a total land area of approximately 654 square miles, or 418,560 acres (*10*).[1] The area of Schley County is 162 square miles, or 103,680 acres, and the area of Sumter County is 492 square miles, or 314,880 acres. Ellaville is the county seat of Schley County, and Americus is the county seat of Sumter County. Both towns are located approximately in the center of their respective counties.

According to the U.S. Bureau of the Census, the population of Schley County was 3,256 and the population of Sumter County was 24,652 in 1960. The population remained about the same in the two counties from 1950 to 1960.

Much of Schley County is made up soils too sandy or too sloping to be well suited to crops, but most soils in Schley and Sumter Counties are suitable for many different crops. The climate of the area is favorable. The average annual precipitation of about 50 inches is generally ample for the commonly grown crops, and precipitation is well distributed throughout the year. Ample sources of water are available for industrial, residential, and farm use.

Farming is the main enterprise in the two counties, although approximately one-half of the acreage is wooded. According to the U.S. Census of Agriculture, 61.1 percent of Schley County, or 63,395 acres, and 81.8 percent of Sumter County, or 253,778 acres, were in farms in 1964. The average size of the farms was about 350 acres in Schley County and about 463 acres in Sumter County. General farms were the most common type. The chief crops in 1964 were corn, peanuts, cotton, small grains, soybeans, hay, and pasture plants. Crops were the main source of farm income in Schley County. Livestock, mainly cattle and hogs, and livestock products were the main sources in Sumter County. Beef cattle, dairy cattle, and hogs are the main kinds of livestock.

Industries are increasing in the two-county area. The main industrial products are mobile homes, textiles, lumber, fertilizer, furniture, and processed farm products. Most of the industries are located near Americus.

Several State highways and many paved and dirt county roads pass through the two counties. U.S. Highway No. 19 passes from north to south across both counties. Railroads, trucklines, and buses provide shipping facilities and transportation. Local markets are available for most farm products.

Electric power is available throughout both counties. Natural gas lines, which cross Sumter County, provide gas to Americus and other parts of the county. Telephone service is available throughout most of the two-county area.

[1] Italic figures in parentheses refer to Literature Cited, p. 66.

How This Survey Was Made

Soil scientists made this survey to learn what kinds of soil are in Schley and Sumter Counties, where they are located, and how they can be used. The soil scientists went into the counties knowing they likely would find many soils they had already seen and perhaps some they had not. They observed the steepness, length, and shape of slopes; the size and speed of streams; the kinds of native plants or crops; the kinds of rock; and many facts about the soils. They dug many holes to expose soil profiles. A profile is the sequence of natural layers, or horizons, in a soil; it extends from the surface down into the parent material that has not been changed much by leaching or by the action of plant roots.

The soil scientists made comparisons among the profiles they studied, and they compared these profiles with those in counties nearby and in places more distant. They classified and named the soils according to nationwide, uniform procedures. The *soil series* and the *soil phase* are the categories of soil classification most used in a local survey.

Soils that have profiles almost alike make up a soil series. Except for different texture in the surface layer, all the soils of one series have major horizons that are similar in thickness, arrangement, and other important characteristics. Each soil series is named for a town or other geographic feature near the place where a soil of that series was first observed and mapped. Tifton and Greenville, for example, are the names of two soil series. All the soils in the United States having the same series name are essentially alike in those characteristics that affect their behavior in the undisturbed landscape.

Soils of one series can differ in texture of the surface soil and in slope, stoniness, or some other characteristic that affects use of the soils by man. On the basis of such differences, a soil series is divided into phases. The name of a soil phase indicates a feature that affects management (*8*). For example, Tifton sandy loam, 0 to 2 percent slopes, is one of several phases within the Tifton series.

After a guide for classifying and naming the soils had been worked out, the soil scientists drew the boundaries of the individual soils on aerial photographs. These photographs show woodlands, buildings, field borders, trees, and other details that help in drawing boundaries accurately. The soil map at the back of this publication was prepared from aerial photographs.

The areas shown on a soil map are called mapping units. On most maps detailed enough to be useful in planning the management of farms and fields, a mapping unit is nearly equivalent to a soil phase. It is not exactly equivalent, because it is not practical to show on such a map all the small, scattered bits of soil of some other kind that have been seen within an area that is dominantly of a recognized soil phase.

Some mapping units are made up of soils of different series, or of different phases within one series. Two such kinds of mapping units are shown on the soil map of Schley and Sumter Counties: soil complexes and undifferentiated groups.

A soil complex consists of areas of two or more soils, so intermingled or so small in size that they cannot be shown separately on the soil map. Each area of a complex contains some of each of the two or more dominant soils, and the pattern and relative proportions are about the same in all areas. An example is Esto complex, 8 to 17 percent slopes.

An undifferentiated group is made up of two or more soils that could be delineated individually but are shown as one unit because, for the purpose of the soil survey, there is little value in separating them. The pattern and proportion of soils are not uniform. An area shown on the map may be made up of only one of the dominant soils, or of two or more. The name of an undifferentiated group consists of the names of the dominant soils, joined by "and." Kinston and Bibb soils is an example.

While a soil survey is in progress, samples of soils are taken, as needed, for laboratory measurements and for engineering tests. Laboratory data from the same kinds of soil in other places are assembled. Data on yields of crops under defined practices are assembled from farm records and from field or plot experiments on the same kinds of soil. Yields under defined management are estimated for all the soils.

But only part of a soil survey is done when the soils have been named, described, and delineated on the map, and the laboratory data and yield data have been assembled. The mass of detailed information then needs to be organized in such a way as to be readily useful to different groups of users, among them farmers, managers of woodland, and engineers.

On the basis of yield and practice tables and other data, the soil scientists set up trial groups. They test these groups by further study and by consultation with farmers, agronomists, engineers, and others, then adjust the groups according to the results of their studies and consultation. Thus, the groups that are finally evolved reflect up-to-date knowledge of the soils and their behavior under current methods of use and management.

General Soil Map

The general soil map at the back of this survey shows, in color, the soil associations in Schley and Sumter Counties. A soil association is a landscape that has a distinctive proportional pattern of soils. It normally consists of one or more major soils and at least one minor soil, and it is named for the major soils. The soils in one association may occur in another, but in a different pattern.

A map showing soil associations is useful to people who want a general idea of the soils in an area, who want to compare different parts of an area, or who want to know the location of large tracts that are suitable for a certain kind of land use. Such a map is a useful general guide in managing a watershed, a wooded tract, or a wildlife area, or in planning engineering works, recreational facilities, and community developments. It is not a suitable map for planning the management of a farm or field, or for selecting the exact location of a road, building, or similar structure, because the soils in any one association ordinarily differ in slope, depth, stoniness, drainage, and other characteristics that affect their management.

Eight soil associations are in Schley and Sumter Counties. One consists of level soils on flood plains; two consist of dominantly very gently sloping to gently sloping sandy soils on uplands; three consist of dominantly level to gently sloping soils on uplands; and two consist of dominantly gently sloping to strongly sloping soils on uplands. These

associations are described in the following pages. Unless otherwise indicated, the terms for texture used in the title for several of the associations apply to the surface layer. For example, in the title for association 1, the word "loam" refers to texture of the surface layer.

Level Soils of the Flood Plains

In only one association in Schley and Sumter Counties are the soils on flood plains. These soils formed in alluvium, are generally loamy, and are mainly gray and mottled below the surface layer. They are level or nearly level and are subject to flooding when the adjacent streams overflow their banks. The major areas lie along Kinchafoonee, Muckalee, and Buck Creeks.

1. Kinston-Bibb association

Poorly drained loamy soils that are mainly gray below the surface layer

This association consists mainly of poorly drained, nearly levels soils that formed in alluvium. These soils occur together in widely scattered areas on narrow to broad flood plains of the streams and large drainageways that dissect the two counties. They formed in sediment washed from the surrounding uplands. Flooding is frequent, and beaver have impounded water in some places.

The association makes up about 7 percent of the two counties. Kinston soils make up about 55 percent of the association, Bibb soils about 25 percent, and the remaining 20 percent is minor soils.

The Kinston soils typically have a surface layer of reddish-brown loam about 6 inches thick that contains thin layers of sandy and clayey material. The next layer extends to a depth of 30 inches and consists of mottled gray and dark-gray sandy clay loam containing streaks and lenses of sandy and clayey material. Below this layer and extending to a depth of 60 inches is mottled dark-gray loam that contains streaks of sandy and clayey material.

The Bibb soils have a surface layer of dark grayish-brown loam and sandy loam about 8 inches thick. Beneath the surface layer and extending to a depth of 65 inches is mainly gray sandy loam that is mottled with shades of brown and contains lenses or thin layers of sandy and loamy material.

Minor soils in this association have a profile similar to those of the Kinston and Bibb soils. They have a gray subsoil and are poorly drained.

Most of the acreage is wooded and has a dense cover of blackgum, bay, yellow-poplar, sweetgum, alder, briers, and other water-tolerant plants. The few areas that have been cleared are used for pasture. Because of wetness and the hazard of flooding, the soils of this association are not suited to use for intensive farming. They have severe limitations to use for community development and for many kinds of recreation, but are suited to trees and can be used as habitat for wildlife.

Dominantly Very Gently Sloping to Gently Sloping Soils of the Uplands

In two soil associations the soils are mainly very gently sloping to gently sloping and are chiefly on broad to narrow ridgetops and sloping hillsides. Slopes are generally 0 to 8 percent on the smoother parts of the associations but in places range to about 12 percent or slightly steeper on the short hillsides adjacent to drainageways. These soils are mainly sandy to a depth of about 45 inches or more, but some have a loamy subsoil below the surface layer. They range from yellowish brown to yellowish red and dark red in color.

2. Lakeland-Vaucluse association

Excessively drained sandy soils that are yellowish brown below the surface layer, and well-drained soils that have mainly a yellowish-red loamy subsoil

This association consists of very gently sloping or gently sloping soils on broad ridges and of sloping to strongly sloping soils on narrow hillsides. It is in the northern and western parts of Schley County. It is dissected by many small drainageways and streams. In about one-half of the association, slopes are 0 to 5 percent; in about one-fourth they are 5 to 8 percent; and in the rest of the association, they are from 8 to 17 percent.

This association makes up about 5 percent of the two counties. Lakeland soils make up about 65 percent of the association, Vaucluse soils about 20 percent, and the remaining 15 percent is minor soils.

Lakeland soils are excessively drained and are mainly on the broad ridges. Typically, the surface layer is dark grayish-brown sand about 8 inches thick. Beneath this and extending to a depth of 66 inches is yellowish-brown loose sand. Reddish-yellow sand extends from a depth of 66 to 78 inches.

Vaucluse soils are well drained, sloping to strongly sloping soils mainly on hillsides. Typically the surface layer is dark grayish-brown loamy sand about 5 inches thick. The subsoil, to a depth of 18 inches, is yellowish-brown and strong-brown friable sandy loam and sandy clay loam. Below this, to a depth of 38 inches, the subsoil is firm, compact, weakly cemented, mottled yellowish-red sandy clay loam. The lower part of the subsoil, to a depth of 60 inches, is yellowish-red sandy loam or sandy clay loam mottled with shades of brown and gray.

The minor soils are dominantly the well-drained Lucy, Orangeburg, and Esto soils.

Most of the soils of this association are not suited to intensive farming. Most farming is of a general nature. The main crops are corn, peanuts, cotton, watermelons, and small grain. Beef cattle and hogs are the main livestock. The soils in most parts of this association have moderate to severe limitations for community development and recreational uses.

3. Lakeland-Lucy-Americus association

Mainly excessively drained to somewhat excessively drained sandy soils that are yellowish brown to dark red below the surface layer

This association consists of very gently sloping to gently sloping soils on broad and narrow ridgetops and of sloping to strongly sloping soils on hillsides. It is dissected by numerous small drainageways and streams. Areas of the association are scattered. They occur along or near the larger streams, mainly in the southern half of Schley County and in the western and northeastern parts of Sumter County. In about one-third of the association,

slopes are 0 to 5 percent; in about one-third they are 5 to 8 percent; and in the rest of the association, they are mostly 8 to 12 percent, although a few areas are steeper.

This association makes up about 8 percent of the two counties. Lakeland soils make up about 45 percent of it, Lucy soils about 20 percent, and Americus soils 15 percent. The remaining 20 percent is minor soils. The Lakeland, Lucy, and Americus soils are on both ridgetops and hillsides.

Lakeland soils are excessively drained. Typically, the surface layer is dark grayish-brown and about 8 inches thick. Beneath this layer is yellowish-brown loose sand that extends to a depth of 66 inches. Reddish-yellow sand is at a depth of 66 to 78 inches.

Lucy soils are well drained. Typically, the surface layer is brown loamy sand about 9 inches thick. The subsurface layer is strong-brown loamy sand that extends to a depth of 23 inches. The subsoil is yellowish-red sandy loam to a depth of 35 inches, and it is red sandy clay loam to a depth of 68 inches.

Americus soils are somewhat excessively drained. In a typical profile the surface layer is dark reddish-brown loamy sand about 7 inches thick. The subsoil is dark-red loamy sand to a depth of 47 inches, and it is dark-red sandy loam to a depth of 72 inches.

The minor soils in this association are chiefly the well-drained Esto, Vaucluse, and Orangeburg soils. They are on uplands.

Most of this association is in planted pines or in natural vegetation that consists mainly of scrub oak and haw bushes. The soils are generally not suited to intensive farming. Most areas of the association have moderate limitations for community development and recreational uses.

Dominantly Level to Gently Sloping Soils of the Uplands

In three associations the soils are mainly level to gently sloping and occur as broad interstream divides and ridgetops that have short hillsides adjacent to the drainageways. Slopes are mainly 0 to 5 percent on the smoother parts of the associations but range to about 8 percent on the steeper parts. These soils have mainly a yellowish-red, yellowish-brown, red, or dark-red loamy to clayey subsoil.

4. Tifton-Greenville-Faceville association

Well-drained soils that have mainly a yellowish-red to dark-red loamy or clayey subsoil

This association consists of nearly level or very gently sloping soils on broad ridgetops (fig. 2) and of gently to strongly sloping soils on narrow side slopes. Many small, narrow, winding drainageways and many small branches and creeks dissect the areas. Most of the association is in the southern half of Sumter County. Small depressions occupied by a poorly drained soil dot the landscape in the southeastern part of Sumter County. In about one-half of the association, slopes are 2 to 5 percent; in about one-fifth of the association, they are 0 to 2 percent; and in the rest of the association, most are 5 to 8 percent. A few

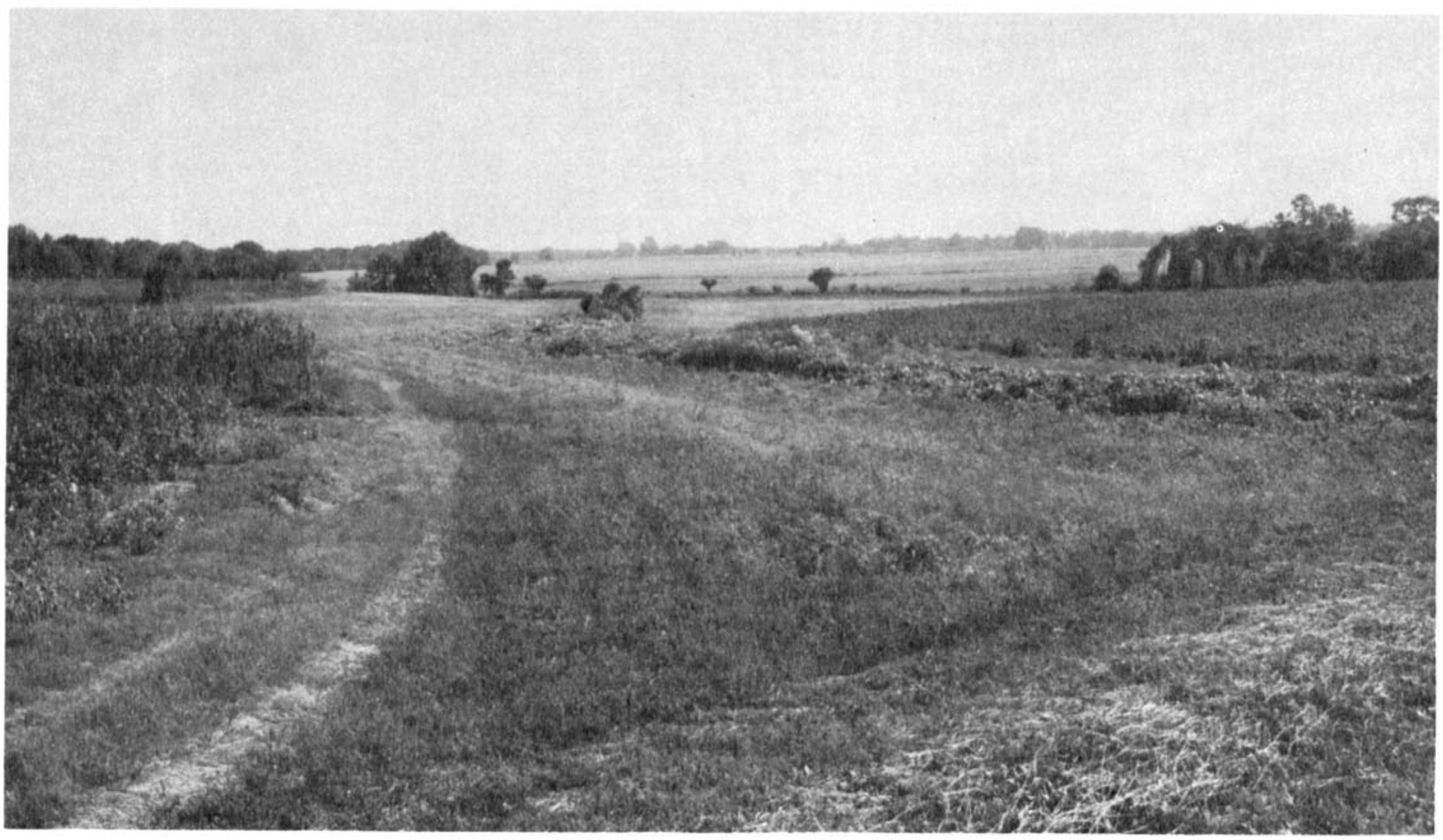

***Figure 2.*—Typical area in soil association 4.**

steeper areas are on the sides of hills along some of the streams and drainageways.

This association makes up about 38 percent of the two counties. Tifton soils make up about 60 percent of the association, Greenville soils about 15 percent, Faceville soils about 10 percent, and the remaining 15 percent is minor soils.

Tifton soils typically have a surface layer of dark grayish-brown sandy loam about 7 inches thick. The subsoil, to a depth of 42 inches, is mainly yellowish-red sandy clay loam. Below this, to a depth of 62 inches, is sandy clay loam mottled with shades of gray, red, and brown. Few to many small iron pebbles are scattered throughout the profile.

In Greenville soils the surface layer is typically dark reddish-brown sandy loam about 7 inches thick. The subsoil, to a depth of 82 inches, is dark-red sandy clay.

Faceville soils have a surface layer that commonly is dark grayish-brown sandy loam 7 inches thick. The subsoil extends to a depth of 65 inches and is mainly sandy clay. It is strong brown and yellowish red in the upper part, red in the middle part, and yellowish red mottled with shades of brown, yellow, and red in the lower part.

The minor soils in this association are chiefly the poorly drained Grady soils and the well-drained Orangeburg and Carnegie soils. Grady soils are in sinks or depressions that dot the landscape. Orangeburg and Carnegie soils are mainly the sloping parts of the association.

Most of the acreage is cultivated or in pasture, and the association is generally suitable for intensive farming. The rest is planted to pine trees or consists of natural stands of pine and scattered hardwoods. Most farming is of a general nature. Corn, cotton, peanuts, soybeans, and small grain are the main crops; and beef cattle, dairy cattle, and hogs are the main livestock.

Most areas of this association have only slight or moderate limitations for community development and recreational uses.

5. *Tifton-Norfolk-Grady association*

Well-drained soils that have mainly a yellowish-red to yellowish-brown loamy subsoil, and poorly drained soils that have a gray clayey subsoil

This association consists mainly of nearly level to gently sloping soils on broad, upland areas. It is in the southeastern part of Sumter County. Slopes are less than 8 percent. Only a few streams are in this association. Excess surface water from a large part of the acreage drains into depressions that have no natural outlets. In about two-thirds of this association, slopes are 0 to 2 percent; and in the rest, slopes are mostly 2 to 5 percent. Only a few steeper areas occur throughout the association.

This association makes up about 2 percent of the survey area. Tifton soils make up about 50 percent of it, Norfolk soils 20 percent, Grady soils 20 percent, and minor soils the remaining 10 percent.

Tifton and Norfolk soils are well drained and occur on the higher parts of the association. Tifton soils typically have a surface layer of dark grayish-brown sandy loam about 7 inches thick. The subsoil, to a depth of 42 inches, is mainly yellowish-red and yellowish-brown sandy clay loam and to a depth of 62 inches it is sandy clay loam mottled in shades of gray, red, and brown. Few to many small iron pebbles are scattered throughout the profile.

Norfolk soils typically have a surface layer of dark grayish-brown loamy sand about 9 inches thick. The subsoil, to a depth of 62 inches, is mainly yellowish-brown sandy clay loam.

Grady soils are poorly drained and occur mainly in upland depressions that are ponded. Typically, the surface layer is very dark gray loam about 6 inches thick. The subsoil, to a depth of 70 inches, is mainly gray clay mottled with shades of yellow and brown.

The minor soils are chiefly the moderately well drained Irvington and Goldsboro soils. They are at slightly higher elevations than the poorly drained Grady soils. The poorly drained Rains soils, also minor soils, are in low, wet depressions and drainageways.

Most of the moderately well drained and well drained soils are cultivated or are in pasture, and they are suited to intensive farming. Most farming is of a general nature. Corn, cotton, peanuts, soybeans, and small grain are the main crops; and beef cattle and hogs are the main livestock. Very little of the acreage of the poorly drained soils is cleared. These soils are mainly in trees and small plants that can tolerate water.

The well drained or moderately well drained soils throughout most of the association have moderate or slight limitations for community development and for recreational uses. Because of wetness the Grady soils have severe limitations.

6. *Orangeburg-Red Bay-Greenville association*

Well-drained soils that have mainly a red to dark-red loamy or clayey subsoil

This association consists of level to very gently sloping soils on broad ridgetops and of gently sloping to strongly sloping soils on narrow side slopes and numerous small, narrow, winding drainageways. Most of the acreage is in the southern part of Schley County and the northern part of Sumter County, but the association occurs throughout the two counties. Many small branches and creeks dissect the association. About one-half the association has 2 to 5 percent slopes, one-fourth has about 0 to 2 percent slopes, and in the rest slopes are mostly 8 percent. A few steeper areas are on side slopes along the streams and small drainageways.

This association makes up about 27 percent of the two counties. Orangeburg soils make up about 55 percent of the association, Red Bay soils about 15 percent, and Greenville soils about 10 percent. The greater part of the minor soils, the other 20 percent, is Faceville soils.

Orangeburg soils typically have a surface layer of brown loamy sand about 7 inches thick. The subsoil, to a depth of 38 inches, is mainly red to yellowish-red sandy clay loam. Below this, to a depth of 60 inches, the subsoil is red clay loam mottled with shades of brown.

In Red Bay soils the surface layer is dark reddish-brown sandy loam about 8 inches thick. The subsoil, to a depth of 77 inches, is dark-red sandy clay loam.

Greenville soils are similar to Red Bay soils, but they have a more clayey subsoil. The surface layer is dark reddish-brown sandy loam about 7 inches thick. The subsoil, to a depth of 82 inches, is dark-red sandy clay.

The minor soils in this association are well-drained Faceville, Tifton, and Lucy soils and the somewhat excessively drained Americus soils.

Most of this association is cultivated or in pasture. The rest is in planted pine trees or natural stands of pine and scattered hardwoods. Generally, the association is suited to intensive farming. Most farming is of a general nature. Corn, cotton, peanuts, soybeans, and small grain are the main crops. Beef and dairy cattle and hogs are the main livestock.

Most of the association has only slight or moderate limitations for community development and recreational uses.

Dominantly Gently Sloping to Strongly Sloping Soils of the Uplands

The soils of two associations are mainly gently sloping to strongly sloping, though the steeper parts range to moderately steep. The gently sloping soils are on narrow ridgetops, and the strongly sloping soils are on wooded hillsides. These soils are well drained to excessively drained and are loamy, clayey, or sandy beneath the surface layer. They range mainly from strong brown to yellowish red and yellowish brown in color.

7. *Vaucluse-Lakeland association*

Well-drained soils that have mainly a yellowish-red loamy subsoil, and excessively drained sandy soils that are yellowish brown below the surface layer

This association has mainly rolling topography (fig. 3) and is dissected by many narrow valleys and drainageways. It is in the northern and western parts of Schley County. In about one-half of the association, slopes are 8 to 12 percent; and in about one-fifth, they are 12 to 17 percent. In the rest of the association, slopes are 2 to 8 percent.

This association makes up about 8 percent of the two counties. Vaucluse soils make up about 60 percent of the association, Lakeland soils about 25 percent, and the remaining 15 percent is minor soils.

Vaucluse soils are well drained and are mostly the steeper parts of the association. The surface layer typically is dark grayish-brown loamy sand about 5 inches thick. The subsoil, to a depth of 18 inches, is yellowish-brown and strong-brown, friable sandy loam and sandy clay loam. Below this, to a depth of 38 inches, the subsoil is firm, compact, weakly cemented, mottled yellowish-red sandy clay loam. The lower part of the subsoil, to a depth of 60 inches, is yellowish-red sandy loam or sandy clay loam mottled with shades of brown and gray.

Lakeland soils are excessively drained. They are on ridgetops and side slopes. In a representative profile the surface layer is dark grayish-brown sand about 8 inches thick. Beneath this, to a depth of 66 inches, is yellowish-brown loose sand. Reddish-yellow sand extends from a depth of 66 to 78 inches.

The minor soils are chiefly well-drained Lucy, Orangeburg, and Esto soils. Lucy and Orangeburg soils are mainly on ridgetops, and Esto soils are mainly on the hillsides.

Most of the acreage is in planted pine or natural vegetation consisting of scrub oak and haw bushes. Some areas on the less sloping ridgetops are cultivated or in pasture. In these cleared areas, farming is of a general nature. Most of the association is not suited to intensive farming. Corn, peanuts, cotton, watermelons, and small grain are the main crops. Beef cattle and hogs are the main livestock.

The association has moderate to severe limitations for community development and many recreational uses.

***Figure 3.*—The rolling topography of association 7 is exposed by a highway.**

8. *Carnegie-Henderson association*

Well-drained pebbly and cherty soils that have mainly a strong-brown to yellowish-red loamy or clayey subsoil

This association consists chiefly of gently sloping soils on long, narrow ridgetops and of sloping to strongly sloping soils on side slopes in the northeastern and southwestern parts of Sumter County. Slopes extend from the ridgetops to the winding streams and drainageways. They range from 2 to 17 percent; but in about half of the association, they range from 8 to 12 percent.

This association makes up about 5 percent of the two counties. Carnegie soils make up about 55 percent of the association, Henderson soils about 25 percent, and the remaining 20 percent is minor soils.

Carnegie soils are the gently sloping and sloping parts of the association. The surface layer typically is brown sandy loam about 4 inches thick. The subsoil, to a depth of 21 inches, is strong-brown, friable sandy clay loam. Beneath this, it is firm sandy clay loam to a depth of 60 inches. It is strong brown mottled with shades of brown and red in the upper part. The lower part is mottled with shades of brown, red, and gray. Small, hard pebbles of iron are on the surface and throughout the profile.

The Henderson soils are in all parts of the association. The surface layer typically is dark grayish-brown cherty sandy loam about 6 inches thick. The subsoil, to a depth of 62 inches, is mainly cherty sandy clay and cherty clay. It is yellowish red in the upper part, yellowish red mottled with red and brown in the middle part, and yellowish red mottled with red and gray in the lower part. A few boulders up to several feet in diameter occur in places.

Minor soils in the association are the Esto, Americus, and Tifton soils. Esto soils are well drained and have a highly mottled clayey subsoil. Americus soils are somewhat excessively drained sandy soils, and Tifton soils are well drained and pebbly and have a loamy subsoil.

Most of the acreage is wooded, and a few scattered areas are cultivated or in pasture. Most of the soils in this association are not well suited to crops; the smoother, less sloping soils can be safely farmed. The association has mainly moderate and severe limitations for community development and most recreational uses.

Descriptions of the Soils

This section describes the soil series and mapping units in Schley and Sumter Counties. The approximate acreage and proportionate extent of each mapping unit are given in table 1. The location of each unit is shown on the soil map at the back of this soil survey.

The procedure in this section is first to describe the soil series, and then the mapping units in the series. Thus, to get full information on any one mapping unit, it is necessary to read the description of that unit and also the description of the soil series to which it belongs. The description of the soil series mentions features that apply to all the soils in a series. Differences among the soils of one series are pointed out in the description of the individual soils or are indicated in the soil name.

A profile typical for each series is described in two ways. Many will prefer to read the short description in narrative form. It is the second paragraph in the series description. The technical description of the profile is mainly for soil scientists, engineers, and others who need to make thorough and precise studies of soils. Unless otherwise stated, the colors used to describe the soils are those of a moist soil, using the Munsell color notations.

Following the name of each mapping unit is a symbol in parentheses. This symbol identifies the mapping unit on the soil map. Listed at the end of each description of a mapping unit are the capability unit and woodland suitability group in which the mapping unit has been placed. The "Guide to Mapping Units" at the back of this survey lists the pages where each of these soils is described.

Many terms used in the soil descriptions and in other parts of this survey are defined in the Glossary at the back of this publication and in the Soil Survey Manual (*8*).

Americus Series

The Americus series consists of somewhat excessively drained, droughty, sandy soils on uplands. These soils are mainly in Sumter County. Slopes range from 0 to 15 percent.

In a representative profile the surface layer is dark reddish-brown loamy sand about 7 inches thick. The subsoil is dark-red loamy sand to a depth of 47 inches. Below that depth, and extending to a depth of 72 inches, is dark-red sandy loam.

Natural fertility and the content of organic matter are low. Reaction is strongly acid or very strongly acid throughout. Permeability is moderately rapid, and available water capacity is low. These soils have a thick root zone and can be cultivated throughout a wide range of moisture content.

These soils are suited to most crops grown locally, but they are sandy and droughty. Crops in these soils respond fairly well to applications of fertilizer and to other good management practices if adequate moisture is available. Some of the less sloping areas are cultivated or used for pasture, but most of the acreage has a cover of natural vegetation or of planted pines. The natural vegetation consists chiefly of mixed hardwoods and pine trees, but it includes scattered scrub oaks and haw bushes.

Representative profile of Americus loamy sand, 0 to 5 percent slopes, in Sumter County, across the highway from the Georgia National Guard Armory on Georgia Highway 30 in Americus:

Ap—0 to 7 inches, dark reddish-brown (5YR 3/4) loamy sand; weak, fine, granular structure; very friable; many fine roots; strongly acid; clear, wavy boundary.

B1—7 to 11 inches, dark-red (2.5YR 3/6) loamy sand; weak, fine, granular structure; very friable; many fine roots; many, fine, vertical veins of material from the Ap horizon; strongly acid; clear, smooth boundary.

B21t—11 to 31 inches, dark-red (2.5YR 3/6) loamy sand; weak, medium, granular structure; very friable; many fine roots and few medium roots; thin lenses and small pockets of clean sand grains; most sand grains coated and bridged with clay; strongly acid; gradual, smooth boundary.

B22t—31 to 47 inches, dark-red (2.5YR 3/6) loamy sand; weak, medium, subangular blocky structure parting to weak, medium, granular; friable; few medium and fine roots; few thin lenses of clean sand grains; most sand grains coated and bridged with clay; very strongly acid; gradual, smooth boundary.

TABLE 1.—*Approximate acreage and proportionate extent of soils*

Soil	Schley County		Sumter County		Total	
	Acres	Percent	Acres	Percent	Acres	Percent
Americus loamy sand, 0 to 5 percent slopes	245	0.2	2,200	0.7	2,445	0.6
Americus loamy sand, 5 to 8 percent slopes	155	.1	2,020	.6	2,175	.5
Americus loamy sand, 8 to 15 percent slopes	420	.4	2,065	.7	2,485	.6
Carnegie sandy loam, 2 to 5 percent slopes, eroded	110	.1	1,100	.3	1,210	.3
Carnegie sandy loam, 5 to 8 percent slopes, eroded	580	.6	5,209	1.7	5,789	1.4
Carnegie sandy loam, 8 to 12 percent slopes, eroded	445	.4	6,660	2.1	7,105	1.7
Esto complex, 5 to 8 percent slopes, eroded	720	.7	650	.2	1,370	.3
Esto complex, 8 to 17 percent slopes	3,380	3.3	1,075	.3	4,455	1.1
Faceville sandy loam, 0 to 2 percent slopes	1,400	1.4	4,970	1.6	6,370	1.5
Faceville sandy loam, 2 to 5 percent slopes, eroded	3,100	3.0	13,126	4.2	16,226	3.9
Faceville sandy loam, 5 to 8 percent slopes, eroded	980	.9	4,650	1.5	5,630	1.3
Goldsboro loamy sand	165	.2	1,310	.4	1,475	.3
Grady soils	140	.1	7,000	2.2	7,140	1.7
Greenville sandy loam, 0 to 2 percent slopes	280	.3	7,690	2.4	7,970	1.9
Greenville sandy loam, 2 to 5 percent slopes	670	.6	15,985	5.1	16,655	4.0
Greenville sandy loam, 5 to 8 percent slopes, eroded	430	.4	3,040	.9	3,470	.8
Greenville sandy clay loam, 5 to 8 percent slopes, severely eroded	435	.4	5,080	1.6	5,515	1.3
Greenville sandy clay loam, 8 to 12 percent slopes, severely eroded	345	.3	3,200	1.0	3,545	.8
Henderson cherty sandy loam, 2 to 8 percent slopes	0	0	2,600	.8	2,600	.6
Henderson cherty sandy loam, 8 to 17 percent slopes	0	0	3,120	1.0	3,120	.7
Irvington sandy loam	35	(1)	2,500	.8	2,535	.6
Kinston and Bibb soils	8,300	8.0	23,600	7.5	31,900	7.6
Lakeland sand, 0 to 8 percent slopes	20,000	19.4	11,275	3.6	31,275	7.5
Lakeland sand, 8 to 17 percent slopes	5,700	5.6	2,630	.8	8,330	2.0
Lucy loamy sand, 0 to 5 percent slopes	2,380	2.3	3,025	1.0	5,405	1.3
Lucy loamy sand, 5 to 8 percent slopes	2,670	2.6	3,060	1.0	5,730	1.4
Lucy loamy sand, 8 to 12 percent slopes	630	.6	670	.2	1,300	.3
Norfolk loamy sand, 0 to 2 percent slopes	235	.2	1,100	.3	1,335	.3
Norfolk loamy sand, 2 to 5 percent slopes	290	.3	500	.2	790	.2
Ochlockonee soils, local alluvium	900	.9	2,400	.8	3,300	.8
Orangeburg loamy sand, 0 to 2 percent slopes	4,250	4.1	10,700	3.4	14,950	3.6
Orangeburg loamy sand, 2 to 5 percent slopes	10,230	10.0	23,260	7.4	33,490	8.0
Orangeburg loamy sand, 5 to 8 percent slopes, eroded	4,830	4.6	8,560	2.7	13,390	3.2
Orangeburg loamy sand, 8 to 12 percent slopes, eroded	2,655	2.6	2,650	.8	5,305	1.3
Rains sandy loam	35	(1)	1,200	.4	1,235	.3
Red Bay sandy loam, 0 to 2 percent slopes	70	(1)	5,370	1.7	5,440	1.3
Red Bay sandy loam, 2 to 5 percent slopes	580	.6	6,470	2.1	7,050	1.7
Red Bay sandy loam, 5 to 8 percent slopes, eroded	75	(1)	3,700	1.2	3,775	.9
Red Bay sandy loam, 8 to 12 percent slopes, eroded	50	(1)	1,500	.5	1,550	.4
Tifton sandy loam, 0 to 2 percent slopes	35	(1)	30,350	9.7	30,385	7.3
Tifton sandy loam, 2 to 5 percent slopes, eroded	460	.4	60,070	19.2	60,530	14.5
Tifton sandy loam, 5 to 8 percent slopes, eroded	240	.2	13,580	4.3	13,820	3.3
Vaucluse loamy sand, 2 to 5 percent slopes, eroded	1,500	1.4	170	(1)	1,670	.4
Vaucluse loamy sand, 5 to 8 percent slopes, eroded	4,640	4.5	455	.1	5,095	1.2
Vaucluse loamy sand, 8 to 17 percent slopes, eroded	18,890	18.3	1,030	.3	19,920	4.8
Water areas greater than 40 acres	0	0	2,305	.7	2,305	.5
Total [2]	103,680	100.0	314,880	100.0	418,560	100.0

[1] Less than 0.1 percent.
[2] Total acreage in Schley and Sumter Counties as indicated in Bureau of the Census "Area Measurement Report" (*10*).

B23t—47 to 72 inches, dark-red (2.5YR 3/6) sandy loam; weak, medium and coarse, subangular blocky structure; friable; few fine roots; few scattered clean sand grains and small pockets of clean sand grains; most sand grains coated and bridged with clay; very strongly acid.

The A1 or Ap horizon ranges from dark brown to dark reddish brown. It is 5 to 14 inches thick in the nearly level and gently sloping areas and 4 to 8 inches thick where the slopes are between 8 and 15 percent. The B1 horizon is reddish brown to dark red in color and the B21t, B22t, and B23t horizons are red to dark red. The B23t horizon commonly is sandy loam, but it is fine sandy loam in places.

Americus soils commonly are among areas of Red Bay, Lucy, and Lakeland soils. They are coarser textured throughout than the Red Bay soils and are much redder throughout the sandy part of their profile than the Lucy soils. They are redder and are finer textured than the Lakeland soils.

Americus loamy sand, 0 to 5 percent slopes (ArB).—This soil has the profile described as representative of the series. Included in mapping were small areas of Lucy and Red Bay soils.

This Americus soil is well suited to pasture and to pine trees. It is only fairly well suited to the commonly grown crops, but most of these crops can be grown. Tilth is good. If the supply of moisture is adequate, cultivated crops and pasture plants respond fairly well to applications of fertil-

izer and to other good management. Capability unit IIIs-1; woodland suitability group 3s2.

Americus loamy sand, 5 to 8 percent slopes (ArC).—This sandy and droughty soil is on uplands. Included in mapping were small areas of Lucy and Red Bay soils.

This Americus soil is better suited to pasture or pine trees than to cultivated crops. Although tilth is good, this soil is only fairly well suited to the commonly grown crops, although most of these crops can be grown. If the supply of moisture is adequate, cultivated crops and pasture plants respond fairly well to applications of fertilizer and to other good management practices. Runoff is slow. Erosion is not a severe hazard, but some areas contain a few scattered rills and gullies. A few areas are cultivated or used for pasture, but most of the acreage is in natural vegetation or in planted pines. Capability unit IVs-1; woodland suitability group 3s2.

Americus loamy sand, 8 to 15 percent slopes (ArD).—The profile of this soil is similar to the one described as representative of the Americus series, but the surface layer is about 2 or 3 inches thinner. A few scattered rills and gullies are present in places.

Included with this soil in mapping were small areas of Lucy soils and other similar soils that are underlain by sand. Also included, in a few places along drainageways and streams, were areas where the slopes are as steep as 17 percent.

Because this Americus soil is sandy and droughty and has slopes steep enough for gullying to be a severe hazard, it is generally not suited to cultivated crops. It is better suited to pasture or for growing pine trees. Most of the acreage is in natural vegetation or in planted pine trees. Capability unit VIs-1; woodland suitability group 3s2.

Bibb Series

The Bibb series consists of poorly drained soils on flood plains. These soils formed in variable-colored and variable-textured alluvium washed from uplands of the coastal plain. They occur along creeks and branches throughout Schley and Sumter Counties.

In a representative profile the surface layer is dark grayish-brown loam and sandy loam about 8 inches thick. Beneath the surface layer, to a depth of about 65 inches, is gray sandy loam mottled with shades of brown and black. It has lenses or thin layers of loamy and sandy material.

These soils are low to moderate in natural fertility and have a low to moderate content of organic matter. Permeability is moderate, and available water capacity is medium. Reaction is strongly acid to very strongly acid throughout. The depth to which plant roots penetrate is determined by the depth to the water table during the growing season. The water table is at or near the surface for 8 to 12 months each year.

Because of flooding and the high water table, Bibb soils are not well suited to cultivation. Drainage is difficult because of the flood-plain position and clogged stream channels. A few areas have been cleared and used for pasture; but most of the acreage is in natural vegetation that is chiefly water oak, gum, yellow-poplar, bay, and sycamore trees. The understory is mostly ferns, briars, lillies, and other water-tolerant plants.

In Schley and Sumter Counties, Bibb soils are mapped only in an undifferentiated group with Kinston soils.

Representative profile of a Bibb loam in an area of Kinston and Bibb soils in Sumter County, about 6 miles east of Americus, 1.6 miles east on Georgia Highway 27 of point where Georgia Highway 27 crosses Little Lime Creek, 0.75 mile south on county road to Little Lime Creek and 100 yards east of road, near north edge of the creek flood plain:

A11—0 to 3 inches, dark grayish-brown (10YR 4/2) loam, stratified with thin lenses of sandy material; weak, medium, granular structure; very friable; many small and medium roots; strongly acid; clear, smooth boundary.

A12—3 to 8 inches, dark grayish-brown (10YR 4/2) sandy loam, stratified with thin lenses of sandy and loamy material; few, fine, faint, dark yellowish-brown (10YR 4/4) mottles that form streaks; weak, medium, granular structure; very friable; many small and medium roots; strongly acid; clear, smooth boundary.

C1g—8 to 24 inches, gray (5Y 6/1) sandy loam, stratified with thin lenses of sandy and loamy material; few, fine, distinct, light yellowish-brown (2.5Y 6/4) mottles; massive; very friable; common fine roots and few medium roots; few pieces of partly decomposed plants; strongly acid; clear, smooth boundary.

C2g—24 to 65 inches, gray (5Y 6/1) sandy loam, stratified with thin lenses of sandy and loamy material; common, medium, prominent, yellowish-brown (10YR 5/6) mottles and common, fine, distinct, black (5Y 2/1) streaks; massive; very friable; few small roots; few bits of partially decomposed plants; strongly acid.

The A horizon is mainly sandy loam to loam but is stratified with variable amounts of sandy and loamy materials. The A11 horizon is variable in color but ranges mostly from grayish brown to dark brown. It is 3 to 6 inches thick. The A12 horizon is grayish brown to dark gray and is 4 to 8 inches thick. It is absent in some places. In some areas fresh, sandy alluvium has been deposited on the surface. The upper 3 to 4 inches of these deposits ranges from very dark grayish brown to dark brown. The C horizon is mainly gray but has mottles of red, brown, yellow, and black. It ranges from sandy loam to loam and contains variable amounts of mixed or stratified sandy and loamy material. In places the lower part of the Cg horizon is black mucky sandy loam or loamy sand below a depth of 40 to 48 inches.

Bibb soils are among the Kinston soils on flood plains. They are coarser textured below the surface layer than Kinston soils.

Carnegie Series

The Carnegie series consists of well-drained, pebbly soils on uplands. These soils occur in scattered areas in Sumter County. Slopes commonly are 2 to 12 percent.

In a representative profile the surface layer is brown sandy loam about 4 inches thick. The upper part of the subsoil, to a depth of 21 inches, is strong-brown, friable sandy clay loam. The lower part of the subsoil, reaching to a depth of 60 inches, is firm sandy clay loam. The upper part is strong brown and is mottled with shades of brown and red. The lower part is mottled with shades of brown, red, and gray. Small, hard pebbles of iron are on the surface and throughout the profile.

Natural fertility and the content of organic matter are low. Reaction is strongly acid. Permeability is moderate in the upper part of the subsoil and slow in the lower part. Available water capacity is medium. The firm, mottled part of the subsoil impedes root penetration; therefore, these soils have only a moderately thick root zone.

Some areas of Carnegie soils are cultivated or are used for pasture, but most of the acreage is idle or is wooded.

The natural vegetation in the wooded areas is chiefly loblolly pines and shortleaf pines mixed with hardwood. Pine trees have been planted in many of the wooded areas. As idle areas revert to woodland, open areas soon become covered with broomsedge, briers, and sassafras.

Representative profile of Carnegie sandy loam, 5 to 8 percent slopes, eroded, in Sumter County along the north side of a road, 1.3 miles east of Cheek Memorial Baptist Church, on the road to the south side of this church which is on Georgia Highway 49, about 2 miles northeast of downtown Americus:

Apcn—0 to 4 inches, brown (10YR 4/3) sandy loam; few, fine, distinct, strong-brown (7.5YR 5/6) mottles; weak, fine, granular structure; very friable; many fine roots; common small iron pebbles; strongly acid; clear, smooth boundary.

B21tcn—4 to 21 inches, strong-brown (7.5YR 5/6) sandy clay loam; moderate, medium, subangular blocky structure; friable; common fine roots; common small iron pebbles; thin clay films around the iron pebbles; material from the Apcn horizon in some of the larger root holes; strongly acid; gradual, wavy boundary.

B22t—21 to 38 inches, strong-brown (7.5YR 5/6) sandy clay loam; many, medium, distinct mottles of yellowish red (5YR 4/6) and yellowish brown (10YR 5/6) and many, fine and medium, prominent, red (2.5YR 4/6) mottles; moderate, medium, subangular blocky structure; firm; few fine roots; few small iron pebbles; few clay films on ped surfaces and around iron pebbles; 10 to 15 percent plinthite; strongly acid; gradual, wavy boundary.

B23t—38 to 60 inches, mottled yellowish-brown (10YR 5/6), yellowish-red (5YR 4/6), light-gray (10YR 7/2), and red (2.5YR 4/6) sandy clay loam that has streaks of sandy clay; moderate, medium, subangular blocky structure; very firm; few clay films on ped surfaces; few fine roots in upper part; few scattered iron pebbles; 15 to 30 percent plinthite; strongly acid.

The Ap horizon ranges from brown to dark yellowish brown in color and from about 3 to 5 inches in thickness. The B2t horizon is mostly strong brown but ranges in color from yellowish red to yellowish brown. It is mottled with shades of red, brown, and gray. This horizon ranges from sandy clay loam to clay loam in texture. The iron pebbles are chiefly ¼ inch to about 1 inch in diameter. They make up about 5 to 20 percent of the soil mass. Plinthite occurs in the B horizon at a depth of about 17 to 24 inches and makes up about 10 to 35 percent of the soil mass. The light-gray mottles in the lower part of the B2t horizon apparently do not indicate wetness.

Carnegie soils commonly occur among the Tifton, Faceville, Greenville, and Henderson soils. They are similar to Tifton soils but are shallower to the highly mottled part of the subsoil that contains soft plinthite. Carnegie soils are mottled and contain plinthite in some part of the subsoil; whereas Faceville, Greenville, and Henderson soils are redder and are free of plinthite.

Carnegie sandy loam, 2 to 5 percent slopes, eroded (CoB2).—This soil occurs on fairly smooth parts of uplands. In many places erosion has exposed the subsoil. A few shallow gullies have formed.

Included with this soil in mapping were small areas of Tifton soils. Also included was a small acreage of a soil that has a profile similar to the one described as representative for the Carnegie series, except that it has a dark reddish-brown surface layer over a dark-red sandy clay subsoil.

This Carnegie soil is used mostly for pasture or as woodland, and it is suited to these uses. It is fairly well suited to row crops, but erosion is a moderate hazard in cultivated fields. Practices that help to control erosion are needed if this soil is cultivated. Capability unit IIIe-4; woodland suitability group 2o1.

Carnegie sandy loam, 5 to 8 percent slopes, eroded (CoC2).—This soil is in small areas on uplands. It has the profile described as representative of the Carnegie series. In most areas there are many places where erosion has exposed the subsoil, and a few shallow gullies and rills have formed.

Included with this soil in mapping were some small areas of Tifton soils and small areas where the firm, highly mottled part of the subsoil is within 10 inches of the surface. Also included was a small acreage of a soil that has a profile similar to that of Carnegie soil except for having a dark reddish-brown surface layer over a dark-red sandy clay subsoil.

Most of the acreage is used as woodland or for pasture, and the soil is suited to these uses. This soil is fairly well suited to cultivated crops, but it is subject to severe erosion if it is not protected. Practices that help to control further erosion are needed in cultivated fields. Capability unit IVe-4; woodland suitability group 2o1.

Carnegie sandy loam, 8 to 12 percent slopes, eroded (CoD2).—This soil is on short hillsides near drainageways and streams. It has a profile similar to the one described as representative of the Carnegie series, but light-gray mottles are at a depth of about 15 to 22 inches. In most areas these are places where erosion has exposed the subsoil. A few shallow and deep gullies have formed in many areas.

Included with this soil in mapping in places were small areas where the firm, highly mottled part of the subsoil is within 10 inches of the surface. Also included were small areas where all of the surface layer has been removed and many shallow and deep gullies have formed. Another inclusion was a small acreage of a soil that has a profile similar to that of this Carnegie soil, except that it has a dark reddish-brown surface layer over a dark-red sandy clay subsoil.

Most of the acreage is wooded. The soil is well suited to use as woodland and for use as pasture. The erosion hazard is very severe if this soil is cultivated. Capability unit VIe-2; woodland suitability group 2o1.

Esto Series

The Esto series consists of well-drained soils that have a firm, clayey, slowly permeable subsoil. These soils are on uplands and are mostly on narrow side slopes along streams and drainageways. Slopes range from 5 to 17 percent.

In a representative profile the surface layer is dark grayish-brown and dark yellowish-brown loamy sand about 8 inches thick. The subsoil extends to a depth of about 62 inches. It is yellowish-red, mottled clay in the upper 20 inches; mottled, yellowish-red, yellowish-brown, light yellowish-brown, and very pale brown sandy clay in the next 25 inches; and mottled, yellowish-brown, yellowish-red, and light brownish-gray sandy clay in the lower 9 inches.

These soils are low in natural fertility and content of organic matter. Permeability is slow, and available water capacity is medium. Reaction is strongly acid throughout. The root zone is moderately thick.

In less sloping areas, these soils are better suited to pasture and woodland than to cultivated crops. Areas of steeper soils are suited mainly to woodland. Most of the

acreage is in native vegetation that consists of mixed hardwoods and scattered pine trees.

Representative profile of Esto loamy sand in an area of Esto complex, 8 to 17 percent slopes, on a narrow, wooded side slope along a small stream in Schley County, 0.9 mile north of Concord on Georgia Highway 240, 100 feet east on north side of dirt road:

A1—0 to 4 inches, dark grayish-brown (10YR 4/2) loamy sand; weak, fine, granular structure; very friable; many small and medium roots; strongly acid; abrupt, smooth boundary.

A2—4 to 8 inches, dark yellowish-brown (10YR 4/4) loamy sand; weak, fine, granular structure; very friable; many small and medium roots; strongly acid; abrupt, smooth boundary.

B21t—8 to 28 inches, yellowish-red (5YR 4/6) clay; common, medium, distinct, yellowish-brown (10YR 5/6) mottles and few, fine, distinct, red (2.5YR 4/6) mottles; strong, medium and coarse, subangular blocky structure; firm; many continuous clay films on ped surfaces; common small and medium roots; strongly acid; clear, smooth boundary.

B22t—28 to 53 inches, reticulately mottled, yellowish-red (5YR 5/8), yellowish-brown (10YR 5/6), light yellowish-brown (2.5Y 6/4), and very pale brown (10YR 7/3) sandy clay stratified with streaks of sandy clay loam; moderate, medium, subangular blocky structure; friable to firm; some clay films on ped surfaces and many continuous clay films in root holes; few small and medium roots; strongly acid; gradual, wavy boundary.

B23t—53 to 62 inches, mottled yellowish-brown (10YR 5/6), yellowish-red (5YR 4/6), and light brownish-gray (2.5Y 6/2) sandy clay intermixed with streaks of sandy clay loam; moderate, medium, subangular blocky structure; friable; clay films on most ped surfaces; strongly acid.

The A horizon ranges from 4 to 11 inches in thickness. The A1 horizon is dark grayish brown, but in disturbed areas the Ap horizon ranges to dark yellowish brown. A B1t horizon is present in places. It is strong-brown to yellowish-brown sandy clay loam 3 to 9 inches thick. The B21t and B22t horizons are yellowish-brown to red clay or sandy clay. Mottles of red, brown, and yellow generally begin at a depth of 10 to 20 inches and increase in number with depth. Gray mottles generally begin at a depth of about 30 to 53 inches, but these mottles do not indicate wetness. Small fragments of ironstone are scattered over the surface and throughout the profile in a few areas.

Esto soils commonly occur among the Vaucluse, Lakeland, and Lucy soils. They have more clay in the subsoil than these associated soils.

Esto complex, 5 to 8 percent slopes, eroded (EvC2).—This complex consists of gently sloping soils on uplands. Most of the soils of the complex have a profile similar to the one described as representative of the Esto series. A few other soils in the mapping unit are similar to Esto soils in use and behavior, but they are so intricately intermingled that it is not practical to map them separately.

Erosion has removed part of the original surface layer, and in many places there are patches where the subsoil is exposed. A few small rills and shallow gullies occur in some areas.

Included with these soils in mapping was a small acreage of soils that have 2 to 5 percent slopes and a few areas where the surface layer is sandy loam. Also included in a few places were small areas in which Kaolin clay is exposed and a few scattered areas where the surface layer is 18 inches thick.

These soils are better suited to pasture or to pine trees than to cultivated crops because they have a firm, clayey subsoil and the hazard of erosion is severe. Most of the acreage is covered by hardwood and pine trees. Capability unit VIe-2; woodland suitability group 3o1.

Esto complex, 8 to 17 percent slopes (EvE).—This complex consists of sloping to strongly sloping soils on uplands. Erosion has removed part of the surface layer, and in many places there are patches where the subsoil is exposed. A few small rills and shallow gullies are in some areas, and in places in these areas a deep gully is present. Most of these soils have a profile similar to the one described as representative of the Esto series. Within the mapped areas, however, are a few other soils similar to Esto soils in use and behavior, but they are so intricately intermingled that it is not practical to map them separately.

Included with this soil complex in mapping were a few areas where erosion has exposed the subsoil. These areas have many shallow and deep gullies. Also included were a few areas where the surface layer is sandy loam and other areas in which kaolin clay is exposed. Also, a small acreage of soils that are similar to those in this complex was included, but they have slopes as steep as 30 percent.

The soils of this complex generally are not suited to cultivated crops, because of their firm, clayey subsoil and steepness of slopes. They are suited to pasture and to pine trees. Most of the acreage is in hardwood and pine trees. Capability unit VIIe-2; woodland suitability group 3o1.

Faceville Series

The Faceville series consists of well-drained soils on uplands. These soils are in fairly large areas. Slopes range from 0 to about 8 percent.

In a representative profile the surface layer is dark grayish-brown sandy loam 7 inches thick. The subsoil is mainly sandy clay that extends to a depth of 65 inches. It is strong brown and yellowish red in the upper part, red in the middle, and yellowish red mottled with shades of brown, yellow, and red in the lower part.

These soils are moderate to low in natural fertility and low in content of organic matter. They are strongly acid throughout and have a thick root zone. Permeability is moderate, and available water capacity is medium.

Faceville soils are well suited to farming. Crops respond well to applications of fertilizer to the soil and to other good management practices. Most of the acreage is used for cultivated crops and pasture. The soils are well suited to locally grown crops, grasses, and pine trees.

Representative profile of Faceville sandy loam, 2 to 5 percent slopes, eroded, 2.4 miles north of the Lee and Sumter County line and 1.1 miles east of U.S. Highway 19 in Sumter County:

AP—0 to 7 inches, dark grayish-brown (10YR 4/2) sandy loam; weak, fine, granular structure; very friable; many fine roots; few small iron concretions; strongly acid; clear, smooth boundary.

B1t—7 to 12 inches, strong-brown (7.5YR 5/6) sandy clay loam containing dark grayish-brown sandy loam from the AP horizon; weak, fine, subangular blocky structure; friable; few fine roots; few small iron concretions; strongly acid; clear, smooth boundary.

B21t—12 to 24 inches, yellowish-red (5YR 4/8) sandy clay; weak, medium, subangular blocky structure; friable; few fine roots; few small iron concretions; clay films around the small iron concretions and ped surfaces; strongly acid; gradual, wavy boundary.

B22t—24 to 36 inches, red (2.5YR 4/6) sandy clay; few, fine, faint, yellowish-brown mottles; moderate, medium, subangular blocky structure; friable; few fine roots; few small iron concretions; clay films around the small iron concretions and on ped surfaces; strongly acid; gradual, wavy boundary.

B23t—36 to 42 inches, red (2.5YR 4/6) sandy clay; common, fine, distinct, yellowish-brown (10YR 5/6) mottles; moderate, medium, subangular blocky structure; firm, few fine roots; few small iron concretions; clay films around the small iron concretions and on ped surfaces; strongly acid; gradual, wavy boundary.

B24t—42 to 65 inches, yellowish-red (5YR 4/6) sandy clay; common, medium, distinct, yellowish-brown (10YR 5/6), brownish-yellow (10YR 6/6), and red (2.5YR 4/6) mottles; moderate, medium, subangular blocky structure; firm; few fine roots; few small iron concretions; clay films around the small iron concretions; strongly acid.

The AP horizon ranges from dark brown to dark grayish brown and dark yellowish brown. In some areas plowing has mixed remnants of the original surface layer with the upper part of the subsoil, causing the color of the AP horizon to range from reddish brown to strong brown. The B1t horizon ranges from reddish-brown to strong-brown sandy clay loam. It is absent in many profiles. The matrix color of the B2t horizon ranges from yellowish red to red. The lower part of the B2t horizon, beginning at a depth of about 30 inches, is commonly mottled with various shades of yellow and brown.

Faceville soils commonly occur with Orangeburg, Greenville, and Tifton soils. They resemble Orangeburg soils in color but have more clay in the subsoil. They are less red in the subsoil and are grayer in the surface layer than Greenville soils, and they have fewer iron concretions and lack the soft plinthite of the Tifton soils.

Faceville sandy loam, 0 to 2 percent slopes (FuA).—This soil is in fairly large areas on uplands. It has a profile similar to the one described as representative of the Faceville series, except that the surface layer is 6 to 9 inches thick. In a few places the plow layer extends into the upper part of the subsoil.

Included with this soil in mapping was a small acreage of a soil similar to Faceville sandy loam, except that it has a strong-brown to yellowish-brown subsoil.

This Faceville soil is among the better soils in the area for farming. It is cultivated extensively and is well suited to most crops grown locally. It is also well suited to pasture and pine trees. Tilth is good, and crops respond well to applications of fertilizer to the soil and to other good management practices. Runoff is slow, and erosion is not a hazard. Capability unit I–2; woodland suitability group 3o1.

Faceville sandy loam, 2 to 5 percent slopes, eroded (FuB2).—This soil is in large areas on uplands. It has the profile described as representative of soils of the Faceville series. The plow layer extends into the upper part of the subsoil in many places, and there are patches where the yellowish-red or strong-brown subsoil is exposed. A few shallow gullies and rills have formed in some areas.

Included with this soil in mapping were small areas that are only slightly eroded. Also included were a few areas of a similar soil that has a strong-brown to yellowish-brown subsoil.

This Faceville soil is used mostly for cultivated crops and pasture. It is well suited to locally grown crops, grasses, and pine trees. Tilth is generally good except in places where the clayey subsoil is exposed. Because of the slope and runoff, erosion is a moderate hazard. Erosion control practices are needed if the soil is cultivated. Capability unit IIe–2; woodland suitability group 3o1.

Faceville sandy loam, 5 to 8 percent slopes, eroded (FuC2).—This soil is on uplands. It has a profile similar to the one described as representative of the Faceville series, but the surface layer is 4 to 8 inches thick. The plow layer extends into the upper part of the subsoil in many places, and the subsoil is exposed in spots. A few shallow gullies and rills have formed, and a few deep gullies are in some areas.

Included with this soil in mapping was a small acreage where slopes are as steep as 12 percent. Also included were a few areas of a similar soil that has a strong-brown to yellowish-brown subsoil.

This Faceville soil is suited to most locally grown crops and some areas of it are cultivated, but erosion is a severe hazard in cultivated fields. Much of the acreage is in pasture or pine trees, and the soil is well suited to these uses. Capability unit IIIe–2; woodland suitability group 3o1.

Goldsboro Series

The Goldsboro series consists of moderately well drained, level to nearly level soils on uplands. These soils are in small areas that are adjacent to, but at higher elevations than, ponded areas and drainageways.

In a representative profile the surface layer is dark grayish-brown loamy sand about 9 inches thick. Beneath this layer, to a depth of 60 inches, the subsoil is mainly sandy clay loam. It is light yellowish brown in the upper part; light yellowish brown mottled with yellowish brown and light gray in the middle part; and mottled, light gray, yellowish brown, yellowish red, and red in the lower part.

These soils are moderate to low in natural fertility and low in content of organic matter. They are strongly acid throughout, and they have a thick root zone. Permeability is moderate, and available water capacity is medium. The water table is at a depth of more than 60 inches most of the time, but it is within a depth of 30 to 60 inches for 30 to 60 days during the rainy period in winter and early in spring.

Goldsboro soils are suited to cultivated crops, pasture plants, and pine trees. During wet periods, however, drainage is needed to prevent damage to crops. Most of the acreage is cultivated or is used for pasture. The natural vegetation is mostly pines, but hardwoods are scattered among some stands.

Representative profile of Goldsboro loamy sand in a cultivated area in Sumter County, 1.5 miles north and 0.5 mile west of intersection of Georgia Highway 195 and the Sumter and Lee county line:

Ap—0 to 9 inches, dark grayish-brown (2.5Y 4/2) loamy sand; weak, fine, granular structure; very friable; many small roots; strongly acid; abrupt, smooth boundary.

B1t—9 to 15 inches, light yellowish-brown (2.5Y 6/4) sandy loam; weak, fine, subangular blocky structure; friable; sand grains coated and abridged with clay; small roots; some mixing of material from the Ap horizon with that in the upper part of the B1t horizon; strongly acid; clear, smooth boundary.

B21t—15 to 28 inches, light yellowish-brown (2.5Y 6/4) sandy clay loam; few, fine, distinct, yellowish-brown (10YR 5/6) mottles; weak, medium, subangular blocky structure; friable; sand grains coated and bridged with clay; few small roots; strongly acid; gradual, wavy boundary.

B22t—28 to 42 inches, light yellowish-brown (2.5YR 6/4) sandy clay loam; few, fine, distinct, yellowish-brown (10YR 5/6) and light-gray (2.5Y 7/1) mottles; weak, medium, subangular blocky structure; friable; sand grains coated and bridged with clay; few small roots; few, small, strong-brown iron nodules; strongly acid; clear, wavy boundary.

B23tg—42 to 60 inches, reticulately mottled, light-gray (10YR 7/1), yellowish-brown (10YR 5/6), yellowish-red (5YR 4/6), and red (2.5YR 4/6) sandy clay loam; weak, medium and coarse, subangular blocky structure; friable to firm; sand grains coated and bridged with clay; few, small, strong-brown to red iron nodules; strongly acid.

The Ap horizon is typically dark grayish brown, but it ranges to grayish brown in a few areas. It is 7 to 10 inches thick. The B1 horizon ranges from brownish yellow and yellowish brown to light olive brown. It is absent in a few places. The B2 horizon is light yellowish-brown sandy clay loam that is mottled with shades of yellow, brown, and red at a depth of about 15 to 30 inches and below. Gray mottles begin at a depth of about 22 to 28 inches. Reticulate mottling commonly is at a depth of more than 24 inches. In places hue is 2.5Y, and the soil is slightly yellower than is typical for the Goldsboro series.

Goldsboro soils typically occur with Norfolk, Rains, and Grady soils. They are not so well drained as Norfolk soils, but they are better drained than Rains soils, which have a gray subsoil. They are better drained than the wet Grady soils, which are in ponded areas and have a gray, clayey subsoil.

Goldsboro loamy sand (Gt).—This soil is in small areas on lower uplands. Slopes range from 0 to 2 percent. Included in mapping were small areas of Norfolk and Rains soils.

This Goldsboro soil is suited to most crops that are grown locally. Crops respond well to applications of fertilizer to the soil and to other good management practices. This soil is suited to pasture and to pine trees. During wet periods, however, drainage is needed to prevent water damage to crops. Most of the acreage is cultivated or in pasture. Capability unit IIw–2; woodland suitability group 2w8.

Grady Series

The Grady series consists of poorly drained soils in ponded depressions on uplands. Slopes range from 0 to 2 percent.

In a representative profile the surface layer is very dark gray loam about 6 inches thick. The subsoil extends to a depth of 70 inches and is chiefly gray clay mottled with shades of yellow and brown.

These soils are low in natural fertility and low to moderate in content of organic matter. Permeability is slow, and available water capacity is medium. Reaction is strongly acid to very strongly acid throughout. The depth to which most roots penetrate is determined mainly by the depth to the water table. The water table is at or near the surface for 6 to 12 months each year, and water stands on the surface for long periods. Many of the areas do not have natural outlets, and drainage is only through underground channels or by evaporation.

Unless they are drained, these soils are too wet for cultivated crops. Most of the acreage is in natural vegetation consisting chiefly of blackgum, sweetgum, oak, a few cypress trees, and other water-tolerant plants.

Representative profile of Grady loam in an area of Grady soils in Sumter County on Georgia Highway 27, 2.25 miles east of its junction with Georgia Highway 195 and 0.25 mile south across an open field:

A1—0 to 6 inches, very dark gray (10YR 3/1) loam; weak, fine, granular structure; very friable; many fine roots; very strongly acid; gradual, wavy boundary.

B21tg—6 to 22 inches, gray (5Y 6/1) clay; many, medium, distinct mottles of yellowish brown (10YR 5/8) and few, fine, distinct mottles of light yellowish brown (10YR 6/4); weak, medium, subangular blocky structure; firm; few fine roots; few clay films around root holes and on ped surfaces; very strongly acid; gradual, smooth boundary.

B22tg—22 to 40 inches, gray (5Y 6/1) clay; common, medium, distinct mottles of yellowish brown (10YR 5/6) and few, fine, distinct mottles of light yellowish brown (10YR 6/4); moderate, medium, subangular blocky structure; very firm; few fine roots in upper part; few clay films on ped surfaces; very strongly acid; gradual, smooth boundary.

B31tg—40 to 50 inches, gray (5Y 6/1) clay; few, fine, distinct mottles of light yellowish brown (10YR 6/4); massive in place, breaks to weak, medium, subangular blocky structure; very firm; very strongly acid; gradual, smooth boundary.

B32tg—50 to 64 inches, gray (5Y 6/1) clay that has streaks of gray (N 6/0); massive in place, breaks to weak, medium, subangular blocky structure; very firm; very strongly acid; gradual, wavy boundary.

B33tg—64 to 70 inches, gray (5Y 6/1) sandy clay that contains balls of clay; common, medium, prominent mottles of strong brown (7.5YR 5/8); massive in place, breaks to weak, medium, subangular blocky structure; firm; few siliceous limestone fragments in lower part; very strongly acid.

The A1 horizon ranges from very dark gray to very dark brown or black in color and from 4 to 6 inches in thickness. Texture ranges from sandy loam to clay loam. An A2 horizon of light brownish-gray sandy loam about 4 to 8 inches thick is present in places. The B2tg and B3tg horizons are gray clay or sandy clay mottled with shades of red, yellow, and brown.

Grady soils commonly occur with the Greenville, Faceville, Tifton, Irvington, and Rains soils. They are more poorly drained and have a grayer subsoil than the Greenville, Faceville, Tifton, and Irvington soils. They have more clay in the subsoil than the Rains soils.

Grady soils (Grd).—These soils are ponded. They are in depressions on uplands. Slopes range from 0 to 2 percent. Texture of the surface layer is variable, but it is commonly sandy loam around the edge of the depression and finer textured in the center. The finer textured surface layer is mostly loam, clay loam, and sandy clay loam. In areas that are ponded for long periods, the surface layer is black muck, 1 to 3 inches thick. A few intermittent lakes are in areas of Grady soils. They hold water 6 months or more of each year.

Included with this soil in mapping were small areas of Rains soils.

Undrained areas of these Grady soils are too wet for cultivated crops. If drained, they are better suited to pasture or trees than to other uses. Most of the acreage is in native vegetation. Most of the acreage that is cleared and drained is used for pasture. Capability unit Vw–1; woodland suitability group 2w9.

Greenville Series

The Greenville series consists of well-drained soils on uplands. Slopes are mostly 0 to 8 percent, but in some areas they range to 12 percent.

In a representative profile the surface layer is dark reddish-brown sandy loam about 7 inches thick. The subsoil extends to a depth of 82 inches. It is dark-red sandy clay.

These soils are low in content of organic matter and are moderate to low in natural fertility. Reaction is strongly

acid throughout, and the root zone is thick. Permeability is moderate, and available water capacity is medium.

The less sloping and less eroded Greenville soils are some of the better soils in the area for farming. They are well suited to the locally grown crops, grasses, and pine trees. Crops respond well to applications of fertilizer to the soil and to other good management practices. The more sloping and severely eroded Greenville soils are poorly suited to cultivated crops. Most of the acreage is used for cultivated crops and pasture.

Representative profile of Greenville sandy loam, 2 to 5 percent slopes, in a cultivated field 0.6 mile north of the Sumter-Lee County line and 0.25 mile west of Chokeelagee Creek in the southwest part of Sumter County:

Ap—0 to 7 inches, dark reddish-brown (5YR 3/4) sandy loam; weak, fine, granular structure; very friable; many small roots; few small iron and manganese pebbles; strongly acid; abrupt, smooth boundary.

B21t—7 to 37 inches, dark-red (2.5YR 3/6) sandy clay; weak and moderate, medium, subangular blocky structure; friable; clay films on some ped surfaces; common small roots; mixing of material from the Ap horizon in upper few inches; few small iron and manganese pebbles; strongly acid; gradual, wavy boundary.

B22t—37 to 70 inches, dark-red (2.5YR 3/6) sandy clay; moderate, medium, subangular blocky structure; friable to firm; clay films on some ped surfaces; few small roots; few small iron and manganese pebbles; strongly acid; gradual, wavy boundary.

B23t—70 to 82 inches, dark-red (2.5YR 3/6) sandy clay; small mottles and narrow veins of strong brown (7.5YR 5/6) and pale brown (10YR 6/3); moderate, medium, subangular blocky structure; firm; clay films on some ped surfaces; few small iron and manganese pebbles; strongly acid.

The Ap horizon ranges from dark reddish brown to dark red. The B2t horizon is mainly dark-red sandy clay but ranges to clay in places. A B1 horizon is present in places. It is commonly dark reddish-brown sandy clay loam. The small iron and manganese pebbles are absent in many places, but they are numerous in other places. The mottled horizon is at a depth of about 70 inches in most areas but is at a depth of 40 inches or less in places.

Greenville soils occur mainly with Red Bay, Faceville, Orangeburg, and Tifton soils. They closely resemble the Red Bay soils but have more clay in the subsoil. They are similar to Faceville soils in texture but have a surface layer that is brown and a subsoil that is darker red. They have a darker colored surface layer than the Orangeburg soils and a more clayey subsoil than those soils. Greenville soils are redder throughout than Tifton soils, and they do not have the plinthite layer that is characteristic of these soils.

Greenville sandy loam, 0 to 2 percent slopes (GoA).—This soil is in fairly large areas on uplands. It has a profile similar to the one described as representative of the Greenville series, but the surface layer is sandy loam 5 to 8 inches thick. In places the plow layer extends into the upper part of the subsoil.

Included with this soil in mapping were a few areas of soils that have a loam surface layer.

This soil is well suited to most crops grown locally (fig. 4). It is also well suited to pastures and to pine trees. Tilth is good, and crops respond well to applications of fertilizer to the soil and to other good management practices. Runoff is slow, and erosion is not a hazard. Capability unit I-2; woodland suitability group 3o1.

Greenville sandy loam, 2 to 5 percent slopes (GoB).—This soil is on uplands in large and small areas. It has the profile described as representative of the Greenville series.

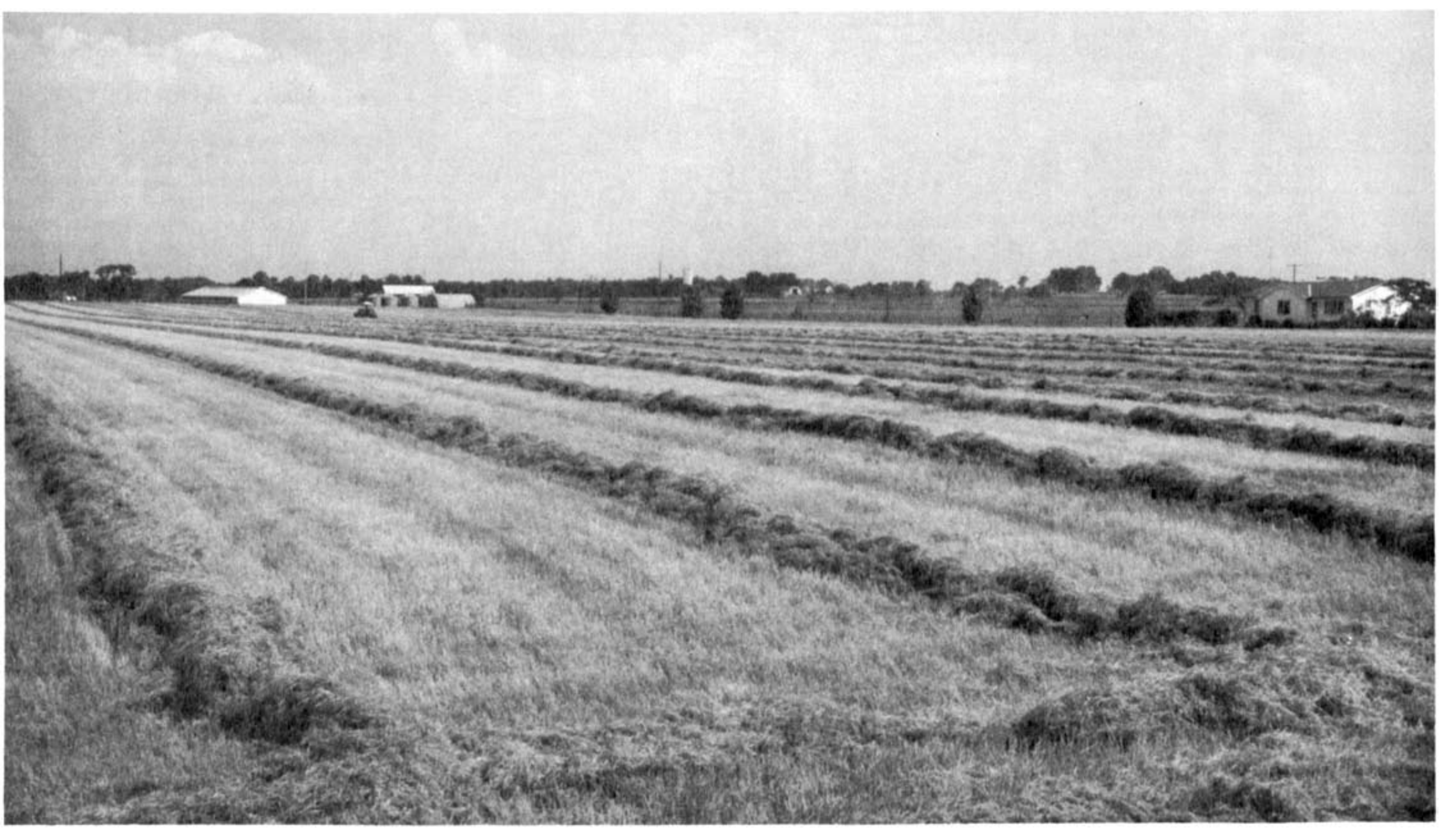

Figure 4.—Harvesting a hay crop of Coastal bermudagrass on Greenville sandy loam, 0 to 2 percent slopes.

The plow layer extends into the upper part of the subsoil in places and exposes the dark-red, clayey subsoil. A few shallow gullies and rills have formed in some fields.

Included with this soil in mapping were a few areas of soils that have a surface layer of loam.

This Greenville soil is well suited to most crops grown locally, and is also well suited to pasture and pine trees. Crops respond well to applications of fertilizer to the soil and to other good management practices. Because of the slopes, erosion is a moderate hazard in cultivated fields. Tilth is good in most fields but is poor in the places where the subsoil is exposed. Most of the acreage is cultivated or in pasture. Capability unit IIe–2; woodland suitability group 3o1.

Greenville sandy loam, 5 to 8 percent slopes, eroded (GoC2).—Areas of this soil are small to medium in size and are on uplands. This soil has a profile similar to the one described as representative of the Greenville series, but the surface layer is 4 to 5 inches thick in most places. In many places in cultivated areas, the plow layer extends into the upper part of the subsoil. The clayey subsoil is exposed in spots, and a few shallow gullies and rills have formed. In some areas a few deep gullies have formed.

Included with this soil in mapping were a few small, narrow areas along small streams and drainageways where slope is as much as 17 percent.

This Greenville soil is suited to most crops that are grown locally, and some of the acreage is cultivated. It is also well suited to pastures and pine trees. Crops respond well to applications of fertilizer to the soil, and to other good management practices. Tilth generally is good, but it is poor in the places where the subsoil is exposed. Because of the slope, erosion is a severe hazard in cultivated fields. Most of the acreage is in pasture or pine trees. Capability unit IIIe–2; woodland suitability group 3o1.

Greenville sandy clay loam, 5 to 8 percent slopes, severely eroded (GqC3).—Erosion has removed most of the original surface layer from this soil and, in places, the upper part of the subsoil also. The surface layer consists mainly of remnants of the original surface layer mixed with the upper part of the subsoil. In places it consists entirely of subsoil material. The surface layer is mainly dark reddish-brown or dark-red sandy clay loam 3 to 5 inches thick. The subsoil is dark-red sandy clay to clay. Few to many shallow gullies and rills have formed in most areas, and there are a few deep gullies.

Included with this soil in mapping were a few small areas where the soil is moderately eroded.

Because of the severe erosion, this Greenville soil is in poor tilth. Runoff is more rapid than in less eroded areas, and further erosion is a severe hazard. This soil is therefore poorly suited to cultivated crops. It is better suited to pasture and pine trees, and most of the acreage is used for those purposes. Capability unit IVe–2; woodland suitability group 3c2.

Greenville sandy clay loam, 8 to 12 percent slopes, severely eroded (GqD3).—Erosion has removed most of the original surface layer from this soil. The plow layer consists mainly of remnants of the original surface layer mixed with material from the upper part of the subsoil. In places it consists entirely of subsoil material. The surface layer is dark reddish-brown to dark-red sandy clay loam 3 to 4 inches thick. The subsoil is dark-red sandy clay to clay. Few to many shallow gullies and rills have formed in most areas, and in some places there are a few deep gullies.

Included with this soil in mapping were a few small areas where slope is as much as 17 percent.

Because of the steep slopes and severe erosion on this Greenville soil, runoff is rapid and tilth is poor. The soil is not suited to cultivation because of the very severe erosion hazard. It is better suited to pasture and pine trees, and most of the acreage is used for these purposes. Capability unit VIe–1; woodland suitability group 3c2.

Henderson Series

The Henderson series consists of well-drained soils on uplands. These soils occur only in Sumter County. Fragments of chert are on the surface and throughout most of the profile. Slopes range from 2 to 17 percent.

In a representative profile the surface layer is dark grayish-brown cherty sandy loam about 6 inches thick. The subsoil extends to a depth of 62 inches and it is mainly cherty sandy clay and cherty clay. It is yellowish red in the upper part, yellowish red with mottles in shades of red and brown in the middle, and yellowish red with mottles in shades of red and gray in the lower part.

These soils are moderate to low in natural fertility and low in content of organic matter. Reaction is strongly acid throughout, and the clayey subsoil inhibits the depth to which roots generally grow in more friable soils. Permeability is slow, and available water capacity is medium.

Tillage is difficult because of the clayey subsoil and chert fragments. The natural vegetation is chiefly mixed hardwoods and pines.

Representative profile of Henderson cherty sandy loam, 2 to 8 percent slopes, in Sumter County, 1.4 miles north of Rehoboth Church on west side of Georgia Highway 49:

Ap—0 to 6 inches, dark grayish-brown (10YR 4/2) cherty sandy loam; weak, fine, granular structure; very friable; many fine roots; about 48 percent gravel and chert fragments, on the surface and in the soil mass; some stones; strongly acid; clear, smooth boundary.

B21t—6 to 15 inches, yellowish-red (5YR 4/8) cherty sandy clay; moderate, medium, subangular blocky structure; friable; common fine roots; few patchy clay films on ped surfaces and clay films in root holes; about 35 percent chert fragments; strongly acid; gradual, wavy boundary.

B22t—15 to 33 inches, yellowish-red (5YR 4/8) cherty clay; common, medium, distinct mottles of red (2.5YR 4/6) and few, fine, distinct mottles of yellowish brown (10YR 5/8); moderate, medium, subangular blocky structure; firm; few fine roots; few patchy clay films on ped surfaces and in root holes; about 28 percent chert fragments; strongly acid; gradual, wavy boundary.

B3t—33 to 62 inches, mottled yellowish-red (5YR 5/6), red (2.5YR 4/6), and light brownish-gray (10YR 6/2) clay; moderate, medium and coarse, subangular blocky structure; very firm; few fine roots; clay films on ped surfaces; about 13 percent chert fragments and a few stones; strongly acid.

The Ap horizon ranges from very dark grayish brown to dark brown in color and from 4 to 10 inches in thickness. Fragments of chert smaller than 6 inches in diameter make up 5 to 50 percent of this horizon. A B1 horizon is present in places. It is strong-brown to yellowish-brown cherty sandy clay loam. Mottles are common to many, beginning at a depth of about 15 to 30 inches. The matrix color of the B2t and B3t horizons is yellowish red to yellowish brown, and texture ranges from sandy clay to clay. In some areas either or both of these horizons are cherty.

Henderson soils most commonly occur with Tifton, Carnegie, and Greenville soils. They do not contain soft plinthite and are more clayey in the subsoil than Tifton and Carnegie soils. They have a grayer surface layer and less red subsoil than Greenville soils, and they contain chert fragments that commonly are absent in the Tifton, Carnegie, and Greenville soils.

Henderson cherty sandy loam, 2 to 8 percent slopes (HdC).—This soil is in small areas on uplands. It has the profile described as representative of the Henderson series. In a few places slope is 0 to 2 percent. Erosion has caused a few small rills and gullies in many areas, and in some areas there are small scattered patches where the clayey subsoil is exposed because of erosion.

The clayey subsoil and numerous fragments of chert (fig. 5) hinder tillage and inhibit root growth. This soil is not well suited to row crops because of these characteristics and the severe hazard of erosion. It is better suited to trees or pasture than to other uses. Most of the acreage is in natural vegetation, which is chiefly mixed hardwoods and pine trees. Capability unit IIIe-4; woodland suitability group 3o1.

Henderson cherty sandy loam, 8 to 17 percent slopes (HdE).—This soil is on narrow side slopes along small streams and drainageways. Numerous fragments of chert are on the surface and throughout the profile. The profile is similar to the one described as representative of the Henderson series, except the surface layer generally is 4 to 6 inches thick, but ranges to 10 inches in a few places. In many places erosion has formed a few small rills and gullies; and in some small, scattered patches, erosion has exposed the clayey subsoil.

Included with this soil in mapping were small, narrow areas that have slopes as steep as 30 percent. In places in these areas, the soil mass is 50 to 60 percent chert fragments.

Runoff is rapid on the steep slopes, and the hazard of erosion is very severe in areas that are not protected by vegetation. The firm, clayey subsoil and numerous fragments of chert hinder tillage and inhibit root growth. This soil is not suited to row crops because of these characteristics and because of the very severe hazard of erosion. Woodland or pasture are good uses of this soil. Most of the acreage is in natural vegetation, which is chiefly mixed hardwoods and pine trees. Capability unit VIIe-2; woodland suitability group 3o1.

Figure 5.—Fragments of chert on the surface of Henderson cherty sandy loam, 2 to 8 percent slopes.

Irvington Series

The Irvington series consists of moderately well drained, level or nearly level soils on uplands. These soils have a fragipan or cemented layer in the subsoil. Typically they occupy smooth areas between ponded areas and areas of well-drained soils. They are mainly in Sumter County.

In a representative profile the surface layer is dark grayish-brown sandy loam, 6 inches thick. Few to many small iron pebbles are on the surface and throughout the profile. The upper 16 inches of the subsoil is yellowish-brown and light olive-brown sandy clay loam mottled with shades of red and brown. The fragipan, also part of the subsoil, is at a depth of about 22 inches and is about 19 inches thick. It is weakly cemented sandy clay loam mottled with shades of gray, red, and brown. Below the fragipan the lower part of the subsoil, to a depth of 60 inches, is sandy clay loam mottled with shades of gray, red, and brown. It is firm but not cemented.

These soils are moderate to low in natural fertility, low in content of organic matter, and strongly acid throughout. Permeability is moderate in the upper part of the subsoil but slow in the middle and lower part. Available water capacity is medium, and the root zone is moderately thick.

These soils are suited to many cultivated crops, but drainage is generally needed if they are cultivated. The soils are well suited to pasture and pine trees. Part of the acreage is cultivated, but the soils are used mostly for pasture or have a cover of natural vegetation consisting mostly of pines and some scattered hardwoods.

Representative profile of Irvington sandy loam in a cultivated field in Sumter County, 8.5 miles east of Americus on Georgia Highway 27; 2.5 miles north on county road and 200 yards east of this road:

Apcn—0 to 6 inches, dark grayish-brown (2.5Y 4/2) sandy loam; moderate, fine and medium, granular structure; very friable; many small roots; many small iron pebbles; strongly acid; clear, wavy boundary.

B&Acn—6 to 9 inches, yellowish-brown (10YR 5/6) sandy clay loam mixed with dark grayish-brown (2.5Y 4/2) sandy loam; moderate, medium, subangular blocky structure; friable; common small roots; few small wormholes and pores; many small iron pebbles; strongly acid; clear, wavy boundary.

B2cn—9 to 22 inches, light olive-brown (2.5Y 5/4) sandy clay loam; common, medium, prominent, strong-brown (7.5YR 5/6) and few, fine, prominent, yellowish-red (5YR 4/8) mottles; moderate, medium, subangular blocky structure; friable; few small roots; few small pores; many small iron pebbles; strongly acid; gradual, smooth boundary.

Bx1—22 to 29 inches, light yellowish-brown (2.5Y 6/4) sandy clay loam; many, medium, distinct, yellowish-brown (10YR 5/6) and light-gray (2.5Y 7/2) mottles; few, fine, prominent, red (2.5YR 4/6) mottles; moderate to strong, medium, angular and subangular blocky structure; friable; brittle; few small roots; many small pores; few streaks of clean sand grains; 2 to 4 percent plinthite; few small iron pebbles; strongly acid; clear, wavy boundary.

Bx2—29 to 41 inches, reticulately mottled light olive-gray (5Y 6/2), yellowish-brown (10YR 5/6), and red (2.5YR 4/6) sandy clay loam; moderate, medium, angular blocky and weak, medium, platy structure; friable; brittle; clay films on some ped surfaces; few small roots; many small pores; few streaks of clean sand grains; few small iron pebbles; about 10 percent plinthite; strongly acid; clear, wavy boundary.

B3t—41 to 60 inches, light-gray (5Y 7/2) sandy clay loam; gray mottles that form streaks of sandy clay; many, medium, prominent, yellowish-brown (10YR 5/6) mottles; few, fine, prominent, red (2.5YR 4/6) mottles and few, fine, distinct, light yellowish-brown (2.5Y 6/4) mottles; weak, medium, subangular blocky structure; firm; clay films on some ped surfaces; strongly acid.

The Ap horizon ranges from dark grayish brown to brown. The number of small iron pebbles ranges from few to many in the A horizon and in the B2cn and Bx horizons. Depth to the fragipan ranges between 14 and 34 inches but is commonly about 22 inches. In some places a B1 horizon is present. It is light olive-brown to yellowish-brown sandy loam or sandy clay loam. The Bx2 horizon is 5 to 15 percent plinthite.

Irvington soils occur chiefly among the Tifton and Grady soils. They have a fragipan that the associated soils do not have. They are less well drained than Tifton soils and have mottles at shallower depths. They are better drained than Grady soils, which are typically gray throughout their profile.

Irvington sandy loam (Ig).—This soil is in small areas that are adjacent to but slightly higher than the ponded areas and in positions slightly lower than the well-drained associated soils. Slopes range from 0 to 2 percent. The water table is at a depth of about 15 to 30 inches for 1 to 2 months in winter and in spring. In some areas water stands on the surface for short periods during wet seasons (fig. 6).

Included with this soil in mapping was a small acreage of soils that are similar to the Irvington soil in drainage and color but do not have a fragipan. Texture of these soils ranges to sandy clay in the subsoil.

This Irvington soil is well suited to most locally grown plants, but drainage generally is needed for cultivated crops. It is well suited to pasture and pine trees. Some of the acreage is cultivated, but it is used mostly for pasture or is in natural vegetation. Capability unit IIw-2; woodland suitability group 2o7.

Kinston Series

The Kinston series consists of poorly drained soils on flood plains. These soils formed in variable-colored and variable-textured alluvium washed from coastal plains on uplands. They are along creeks and branches throughout Schley and Sumter Counties. Slopes range from 0 to about 2 percent.

In a representative profile the surface layer is reddish-brown loam and sandy loam about 6 inches thick that is mixed with streaks of sandy and clayey material. The next layer, to a depth of 30 inches, is mottled, gray and dark-gray sandy clay loam mixed with streaks and lenses of sandy and clayey material. Below this, to a depth of 60 inches, is mottled, dark-gray loam mixed with streaks of sandy and clayey material.

These soils are low in natural fertility and low to medium in content of organic matter. Permeability is moderate, and available water capacity is medium. Reaction is strongly acid to very strongly acid. The depth to which most roots penetrate depends upon the depth to the water table.

Because of flooding and the high water table, these soils are not suited to cultivation. Drainage is difficult because of the position of the soils on the flood plains and because of the clogged stream channels. A few areas have been cleared and used for pasture. Most of the acreage, however, is in natural vegetation, which is chiefly water oak, gum, yellow-poplar bay, and sycamore trees. The understory is mostly ferns, briers, lilies, and other water-tolerant plants.

Figure 6.—Ponding after a heavy rain in an area of Irvington sandy loam.

Representative profile of a Kinston loam in an area of Kinston and Bibb soils in Sumter County, 2 miles northeast (on Georgia Highway 49) of the junction of Georgia Highways 49 and 308, 1 mile north on county road, and 100 yards east of the road in branch bottom:

O1—½ inch to 0, scattered leaves, twigs, and other plant litter.

A11—0 to 3 inches, reddish-brown (5YR 4/4) loam; weak, fine and medium, granular structure; very friable; many small and medium roots; very strongly acid; clear, smooth boundary.

A12—3 to 6 inches, reddish-brown (5YR 4/4) sandy loam mixed with streaks of sandy and clayey material; streaks of common, medium, distinct, brown (10YR 5/3) mottles and few, fine, distinct, yellowish-brown (10YR 5/8) mottles; weak, fine and medium, granular structure; very friable; many small and medium roots; very strongly acid; clear, smooth boundary.

B21g—6 to 18 inches, gray (5Y 5/1) sandy clay loam mixed with lenses of sandy and clayey material; common, fine and medium, distinct, yellowish-brown (10YR 5/6) mottles and few, fine, prominent, strong-brown (7.5YR 5/6) mottles; weak, medium, subangular blocky structure; friable; many small and medium roots; few partly decayed leaves, twigs, and other plant residue; very strongly acid; gradual, smooth boundary.

B22g—18 to 30 inches, dark-gray (10YR 4/1) sandy clay loam mixed with streaks of sandy and clayey material; common, fine, and medium, distinct, strong-brown (7.5YR 5/6) and few, fine, faint, yellowish-brown (10YR 5/6) mottles; weak, medium, subangular blocky structure; friable; many small and medium roots in upper part of horizon and few small roots in lower part; free water at a depth of 24 inches; few partly decayed leaves, twigs, and other plant residue; very strongly acid; gradual, smooth boundary.

Cg—30 to 60 inches, dark-gray (5Y 4/1) loam mixed with streaks of sandy and clayey material; common, medium, prominent, light olive-brown (2.5Y 5/4) and strong-brown (7.5YR 5/6) mottles; massive; very friable; few small roots; free water in the profile; few partly decayed leaves, twigs, and other plant residue; very strongly acid.

In the A1 horizon texture is variable, and it ranges from sandy loam to clay loam. This horizon is about 3 to 10 inches in thickness. In places fresh sandy alluvium has been deposited on the surface. The Cg horizon ranges mostly from light gray to dark gray, and it is sandy loam to clay loam that contains stratified sandy and clayey material. The B horizon is commonly mottled in shades of brown and yellow.

Kinston soils occur among the Bibb soils on the flood plains. They are finer textured below the surface layer than Bibb soils.

Kinston and Bibb soils (Kib).—This mapping unit consists of poorly drained soils on bottom lands or flood plains along branches and creeks throughout Schley and Sumter Counties. Each mapped area generally contains Kinston and Bibb soils, but some contain only one of these soils. Typically, Kinston soils make up about 55 percent of the mapped areas and Bibb soils about 25 percent. The profile of each soil is the one described as representative of its series.

Areas of these soils are frequently flooded, and the floodwater remains for several days. Some areas, mainly those in which water is impounded by beaver dams, are flooded all year. Slopes are less than 2 percent. The soils are strongly acid or very strongly acid throughout. The water table generally is at a depth of 30 inches or less most of the year and is near the surface during periods of heavy rainfall.

Included with these soils in mapping were small areas of poorly drained soils that have a gray, clayey subsoil. Also included were other areas of poorly drained soils that have a gray, sandy subsoil. The included soils that have a sandy subsoil are mostly in Schley County, where there is more sandy material on adjacent slopes than in Sumter County. Other inclusions consist of slightly better drained soils that are not so gray as the other included soils. They are along streambanks and in slightly higher parts of the flood plains than the Kinston and Bibb soils.

Because of the flooding and high water table, soils of this mapping unit are not suited to cultivation. Drainage is difficult because of the position of the soils on the flood plains and because of the clogged stream channels. Most of the acreage is wooded, mainly with water-tolerant hardwoods; and the soils are suited to this use. Capability unit Vw–2; woodland suitability group 2w9.

Lakeland Series

The Lakeland series consists of excessively drained sandy soils on uplands. Slopes range mostly from 0 to 8 percent, but in places they are as much as 17 percent.

In a representative profile the surface layer is dark grayish-brown sand about 8 inches thick. Beneath this, to a depth of 66 inches, is yellowish-brown loose sand. Reddish-yellow sand extends to a depth of 66 to 78 inches.

These soils are low in natural fertility and low in content of organic matter. Reaction is strongly acid to very strongly acid throughout. Tilth is good, and the root zone is thick. Permeability is rapid, and available water capacity is very low. Trafficability is not good when the loose sand becomes dry and bare.

Lakeland soils are not well suited to cultivated crops or pasture, because they are droughty. Most of the acreage is idle or planted to pine trees. The idle areas soon revert to the natural vegetation, which is mainly haw, scrub oak, and scattered pine trees.

Representative profile of Lakeland sand, 0 to 8 percent slopes, in Schley County, 0.5 mile north of Cedar Creek Church and 0.25 mile west of the road on which the church is located:

Ap—0 to 8 inches, dark grayish-brown (10YR 4/2) sand; single grain; loose; common fine roots; very strongly acid; clear, smooth boundary.

C1—8 to 31 inches, yellowish-brown (10YR 5/4) sand; single grain; loose; few fine roots; very strongly acid; clear, smooth boundary.

C2—31 to 66 inches, yellowish-brown (10YR 5/6) sand; single grain; loose; very strongly acid; gradual, wavy boundary.

C3—66 to 78 inches, reddish-yellow (7.5YR 6/6) sand; single grain; loose; many coarse sand grains and a few small quartz pebbles; very strongly acid.

The Ap or A1 horizon ranges from grayish brown to dark brown in color and from 4 to 8 inches in thickness. The C horizon ranges from yellowish brown and strong brown to yellowish red in color. The sand grains are coated, and the content of silt plus clay ranges from 5 to 10 percent at depths of 10 to 40 inches. The depth to finer textured material is more than 72 inches.

Lakeland soils occur mainly with Vaucluse and Lucy soils. They are sandier to greater depths than these soils and other soils in the two-county area.

Lakeland sand, 0 to 8 percent slopes (LpC).—This soil has the profile described as representative of the Lakeland series.

Included with this soil in mapping were areas of soils that have a similar profile but have finer textured material at depths between 50 and 72 inches.

This Lakeland soil is not well suited to cultivated crops or pasture, because it is droughty. It is well suited to pine trees. Watermelons, peanuts, and corn are the main crops in the areas that are cultivated. Most of the acreage is idle or planted to pine trees. Capability unit IVs–1; woodland suitability group 4s2.

Lakeland sand, 8 to 17 percent slopes (LpE).—This soil is mainly on narrow side slopes along small streams and drainageways. It has a profile similar to the one described as representative of the Lakeland series, but the surface layer is brown to grayish-brown sand 4 to 8 inches thick. A few shallow and deep gullies are in some of the steeper areas.

Included with this soil in mapping were soils similar to this soil that have finer textured material at a depth of 46 to 72 inches.

This soil is not suited to cultivated crops and only fairly well suited to pasture because it is droughty and strongly sloping. The slopes and the loose, sandy texture make this soil susceptible to gullying in bare, unprotected areas. Most of the acreage is idle or planted to pine trees. It is fairly well suited to pine trees. Capability unit VIIe–3; woodland suitability group 4s2.

Lucy Series

The Lucy series consists of well-drained soils on uplands. These soils are widely scattered throughout the two-county area. Slopes are mostly from 0 to 8 percent but range to 12 percent.

In a representative profile the surface layer is brown loamy sand about 9 inches thick. The subsurface layer is strong-brown loamy sand, which extends to a depth of 23 inches. The subsoil is yellowish-red sandy loam to a depth of 35 inches. Below this, it is red sandy clay loam to a depth of 68 inches.

These soils are low in natural fertility and low in content of organic matter. Reaction is strongly acid to very strongly acid throughout. Permeability is rapid in the thick loamy sand surface layer and moderate in the finer textured subsoil. Available water capacity is low, and the root zone is thick.

These soils can be used for most crops commonly grown in the area. Because they are droughty, however, they are only fairly well suited to crops. Some of the less sloping areas are cultivated or used for pasture, but most of the acreage is in natural vegetation or pine trees that have been planted. The natural vegetation is mixed hardwood trees, pine trees, scattered scrub oak trees, and hawthorn.

Representative profile of Lucy loamy sand, 0 to 5 percent slopes, in Schley County, 0.5 mile south of Ebenezer Church along paved county road on which church is located, 50 feet west of the road:

Ap—0 to 9 inches, brown (10YR 4/3) loamy sand; weak, fine, granular structure; very friable; many fine roots; strongly acid; clear, smooth boundary.

A2—9 to 23 inches, strong-brown (7.5YR 5/6) loamy sand; weak, fine, granular structure; very friable, common fine roots; very strongly acid; clear, smooth boundary.

B1—23 to 35 inches, yellowish-red (5YR 4/6) sandy loam; weak, fine, granular structure; very friable; clay

stains on sand grains; few fine roots; very strongly acid; gradual, smooth boundary.

B2t—35 to 68 inches, red (2.5YR 4/6) sandy clay loam; few, medium, distinct mottles of strong brown (7.5YR 5/8); moderate, medium, subangular blocky structure; friable; few fine roots; clay films around sand grains and in root holes; very strongly acid.

The A horizon is 23 to 40 inches thick. The A1 or Ap horizon ranges from dark grayish brown to dark yellowish brown. The A2 horizon ranges from brown and yellowish brown to strong brown. In places there is an A3 horizon of strong-brown to yellowish-red loamy sand. A B1 horizon of yellowish-red to strong-brown sandy loam is present in many places. The B2t horizon is mostly yellowish-red to red sandy clay loam, but it ranges to sandy loam.

Lucy soils commonly occur with Lakeland, Americus, and Orangeburg soils. They contain less sand than Lakeland soils and have finer textured material at a depth of 40 inches or less. Lucy soils have less red colors throughout the profile than Americus soils. They resemble Orangeburg soils in color but have thicker sandy layers in the upper part of the profile.

Lucy loamy sand, 0 to 5 percent slopes (LMB).—This soil is in small to medium-sized areas. It has the profile described as representative of the Lucy series.

Included with this soil in mapping were small areas of soils in which the surface layer of loamy sand is underlain by finer textured material at a depth of 40 to 72 inches. In a few places the finer textured material is yellowish brown or strong brown, and in a few places it is similar to the cemented and brittle subsoil of the Vaucluse soils.

Most crops that are commonly grown in the area can be grown in this soil, but growth is only fair because the soil is droughty. Cultivated crops respond fairly well to applications of fertilizer to the soil and to other good management practices if moisture is adequate. The soil is suited to pasture or trees, especially pine trees. Capability unit IIs–1; woodland suitability group 3s2.

Lucy loamy sand, 5 to 8 percent slopes (LMC).—This soil has a profile similar to the one described as representative of the Lucy series, but the surface layer is dark grayish-brown to dark yellowish-brown loamy sand 6 to 9 inches thick. It is underlain by yellowish-brown to strong-brown loamy sand. Red to yellowish-red sandy loam or sandy clay loam is at a depth between 23 and 40 inches.

Included with this soil in mapping were small areas of soils in which the loamy sand surface layer is underlain by the finer textured material at a depth of 40 to 72 inches. In a few places the finer textured material is similar to the cemented and brittle subsoil of the Vaucluse soils.

Most crops that are commonly grown in the area can be grown in this soil, but growth is only fair because the soil is droughty. Crops respond fairly well to applications of fertilizer to the soil and to other good management practices if moisture is adequate. This soil is better suited to pasture or pine trees than to other uses. Capability unit IIIs–1; woodland suitability group 3s2.

Lucy loamy sand, 8 to 12 percent slopes (LMD).—This soil is in narrow areas along small streams and drainageways. The surface layer is dark grayish-brown to dark yellowish-brown loamy sand 4 to 8 inches thick. It is underlain by yellowish-brown to strong-brown loamy sand. Red to yellowish-red sandy loam and sandy clay loam is at a depth of 25 to 40 inches and extends to a depth of 60 inches or more.

Included with this soil in mapping were small areas of soils in which loamy sand extends to a depth of 50 inches. The surface layer is sand in a few places, and in a few areas the subsoil is similar to the cemented and brittle subsoil of the Vaucluse soils. In a small acreage slopes are as steep as 17 percent.

This Lucy soil is suited to most locally grown crops, but generally it is better suited to pasture or pine trees because it is droughty and sloping. Gullying is a severe hazard in unprotected areas. Capability unit VIs–1; woodland suitability group 3s2.

Norfolk Series

The Norfolk series consists of well-drained, nearly level to very gently sloping soils on uplands. These soils are mainly in Sumter County.

In a representative profile the surface layer is dark grayish-brown loamy sand about 9 inches thick. The subsoil extends to a depth of 62 inches and is mainly yellowish-brown sandy clay loam.

Natural fertility is moderate to low, and the content of organic matter is low. These soils are strongly acid throughout and have a thick root zone. Permeability is moderate, and available water capacity is medium.

Norfolk soils are among the best in the area for farming, but they are not extensive. Crops on these soils respond well to applications of fertilizer to the soil and to other good management practices. Most of the acreage is cultivated or in pasture. These soils are well suited to the locally grown crops, grasses, and pine trees.

Representative profile of Norfolk loamy sand, 0 to 2 percent slopes, in Sumter County, 0.75 mile east of Cobb on U.S. Highway 280, 0.25 mile south on west side of paved county road:

Ap—0 to 9 inches, dark grayish-brown (2.5Y 4/2) loamy sand; weak, fine, granular structure; very friable; many fine roots; strongly acid; clear, smooth boundary.

B1t—9 to 15 inches, light olive-brown (2.5Y 5/4) sandy loam; weak, fine, subangular blocky structure; friable; common fine roots; strongly acid; clear, wavy boundary.

B21t—15 to 33 inches, yellowish-brown (10YR 5/6) sandy clay loam; weak, fine, subangular blocky structure; friable; few fine roots; few small iron concretions; strongly acid; gradual, wavy boundary.

B22t—33 to 48 inches, yellowish-brown (10YR 5/8) sandy clay loam; few, fine, faint mottles of strong brown; weak, fine, subangular structure; friable; few small iron concretions; clay films on some ped surfaces, sand grains are bridged with clay; strongly acid; gradual, wavy boundary.

B23t—48 to 62 inches, brownish-yellow (10YR 6/6) sandy clay loam; common, medium, distinct mottles of light gray (10YR 7/2) and strong brown (7.5YR 5/8); moderate, medium, subangular blocky structure; friable; clay films on some ped surfaces; strongly acid.

The A1 or Ap horizon is grayish-brown to dark yellowish-brown loamy sand. The B1 horizon is strong-brown to light olive-brown sandy loam to sandy clay loam, and the B2t horizon is strong-brown to yellowish-brown sandy clay loam. At a depth of 30 to 40 inches, in most profiles, are some mottles of yellowish brown and strong brown. Gray mottles occur at a depth of about 40 to 55 inches. The solum ranges from 60 inches to more than 75 inches in thickness.

Norfolk soils commonly occur with Tifton, Orangeburg, Goldsboro, and Grady soils. They have fewer iron concretions, slightly less clay in the subsoil, and lack the soft plinthite of Tifton soils. They have a yellower subsoil than Orangeburg soils, and they are better drained than Goldsboro and Grady soils.

Norfolk loamy sand, 0 to 2 percent slopes (NhA).—This soil has the profile described as representative of the Norfolk series. Included in mapping were a few places where the surface layer is sandy loam.

This Norfolk soil is among the best in the area for farming. Runoff in cultivated fields and bare areas is slow, and erosion is not a hazard. Tilth is good, and this soil is well suited to most of the crops grown locally. It is also well suited to pasture and pine trees. Crops respond well to applications of fertilizer to the soil and to other good management practices. Most of the acreage is cultivated or in pasture. Capability unit I–1; woodland suitability group 2o1.

Norfolk loamy sand, 2 to 5 percent slopes (NhB).—This soil is on uplands. Included with this soil in mapping were areas of eroded soils, generally where the slopes are as steep as 8 percent. Also included were areas of soils that have a surface layer of sandy loam.

This Norfolk soil is in good tilth and is well suited to most of the crops grown locally. It is also well suited to pasture and pine trees. Crops respond well to applications of fertilizer and to other good management practices. Because of the slope, this soil has a moderate hazard of erosion in unprotected cultivated fields. Most of the acreage is cultivated or in pasture. Capability unit IIe–1; woodland suitability group 2o1.

Ochlockonee Series

The Ochlockonee series consists of well-drained soils that formed in alluvium that washed from nearby slopes and has accumulated in small streambeds, draws, and depressions. These soils are in small areas that are widely scattered throughout the counties. Slopes range from 0 to 2 percent.

In a representative profile the surface layer consists of 6 inches of recently deposited dark-brown loam. Beneath this, to a depth of 66 inches, are layers of brown, dark-brown, and yellowish-red sandy loam and loamy sand that is stratified with layers of sand and loam.

These soils are moderate in natural fertility and moderate in content of organic matter. They are strongly acid throughout, and they have a thick root zone. Permeability is moderately rapid, and available water capacity is medium. The soils are periodically flooded for short periods.

Ochlockonee soils are suited to most crops grown locally and generally are used in the same manner as the surrounding soils.

Representative profile of Ochlockonee loam, mapped in an area of Ochlockonee soils, local alluvium, in a pasture in Sumter County, 0.7 mile west of Thalean School which is on Georgia Route 49, 0.3 mile south of the school via county road; in a small drainageway about 50 yards east of road:

Ap—0 to 6 inches, dark-brown (7.5YR 3/2) loam; few streaks of reddish-brown (5YR 4/4) sandy loam and light yellowish-brown (10YR 6/4) loamy sand; weak, fine, granular structure; very friable; many small roots; strongly acid; clear, smooth boundary.

C1—6 to 14 inches, yellowish-red (5YR 5/6) loamy sand with strata of sand; structureless; very friable; common small roots; few small iron and manganese pebbles; strongly acid; clear, smooth boundary.

C2—14 to 24 inches, brown (7.5YR 4/4) sandy loam; weak, fine, granular structure; friable; few small roots; strongly acid; clear, smooth boundary.

C3—24 to 34 inches, brown (7.5YR 4/4) loamy sand with strata of brown (7.5YR 4/4) sandy loam; weak, fine, granular structure; very friable; few small roots; strongly acid; clear, smooth boundary.

C4—34 to 48 inches, brown (7.5YR 4/4) loamy sand with strata of sand; single grain; loose; few small roots; strongly acid; clear, smooth boundary.

C5—48 to 54 inches, brown (7.5YR 4/4) sandy loam with strata of dark yellowish-brown (10YR 4/4); weak, fine, granular structure; very friable; strongly acid; clear, smooth boundary.

C6—54 to 58 inches, yellowish-red (5YR 4/6) loamy sand with strata of sandy loam; single grain; loose; strongly acid; clear, smooth boundary.

C7—58 to 66 inches, stratified dark-brown (7.5YR 3/2) loam and sandy loam; weak, fine, granular structure; friable; strongly acid.

The Ap horizon ranges from about 4 to 6 inches in thickness. Typically, it is loam; but it ranges from loamy sand and sandy loam to loam. In the A horizon color ranges from dark grayish brown to dark brown and reddish brown. The C horizon commonly is sandy loam and loamy sand. In many places it is stratified with sand, loam, sandy clay loam, and clay loam. The depth of the alluvium is typically more than 60 inches but is as shallow as 40 inches in a few places.

The Ochlockonee soils occur with Irvington, Grady, and Bibb soils. They differ from these soils by being well drained. Ochlockonee soils lack the fragipan of Irvington soils and are coarser textured. They generally are brown below the plow layer; but Rains, Grady, and Bibb soils have a gray subsoil.

Ochlockonee soils, local alluvium (Oi).—These soils are in small areas in draws, depressions, and streambeds. Slopes range from 0 to 2 percent, and the surface layer ranges from loam to sandy loam and loamy sand.

Included with this soil in mapping were small areas of Grady, Rains, Irvington, and Goldsboro soils.

These Ochlockonee soils generally are used in the same manner as the surrounding soils and are suited to most locally grown crops. They are also suited to trees and to pasture. The soils flood periodically for short periods, because they are in low areas. Damage to crops, however, generally is slight. Shallow ditches are needed to drain the surface in some areas. Capability unit IIw–1; woodland suitability group 1o7.

Orangeburg Series

The Orangeburg series consists of well-drained soils on uplands. Areas of these soils are widely scattered throughout the survey area. Slopes are chiefly 0 to 8 percent, but range to 12 percent.

In a representative profile the surface layer is brown loamy sand about 7 inches thick. The subsoil, to a depth of 38 inches, is mainly red to yellowish-red sandy clay loam. Below this, to a depth of 60 inches, it is red clay loam mottled with shades of brown.

These soils are moderate to low in natural fertility and low in content of organic matter. Reaction is strongly acid throughout, and the root zone is thick. Permeability is moderate, and available water capacity is medium.

The less sloping Orangeburg soils are among the best in the area for farming. Crops on these soils respond well to applications of fertilizer and to other good management practices. Most of the acreage is cultivated or in pasture. These soils are well suited to the locally grown crops, grasses, and pine trees.

Representative profile of Orangeburg loamy sand, 2 to 5 percent slopes, in a field in Sumter County, 1.6 miles north of the junction of Georgia Highway 49 and the

Trade School Road, on the east side of Georgia Highway 49:

Ap—0 to 7 inches, brown (10YR 4/3) loamy sand; weak, fine, granular structure; very friable; many fine roots; strongly acid; clear, smooth boundary.

B1t—7 to 12 inches, strong-brown (7.5YR 5/6) sandy loam; weak, fine, subangular blocky structure; friable; common fine roots; few fine pores; material from Ap horizon mixed into this horizon by plowing and also is in old root channels; strongly acid; clear, smooth boundary.

B21t—12 to 21 inches, yellowish-red (5YR 4/6) sandy clay loam; weak, medium, subangular blocky structure; friable; clay bridges between sand grains; few fine roots; few fine pores; strongly acid; clear, smooth boundary.

B22t—21 to 38 inches, red (2.5YR 4/6) sandy clay loam; moderate, medium, subangular blocky structure; friable; clay films on some ped surfaces; few fine roots; strongly acid; gradual, wavy boundary.

B23t—38 to 60 inches, red (2.5YR 4/6) clay loam; few, medium, distinct mottles of strong brown (7.5YR 5/6) and few, fine, prominent mottles of light yellowish brown (10YR 6/4); moderate, medium, subangular blocky structure; friable; clay films on some ped surfaces; few fine roots; strongly acid.

In some of the eroded areas plowing has mixed the original A horizon with the upper part of the B horizon, and the color of the A horizon is reddish brown to strong brown. In the Ap or A1 horizon, color ranges mainly from grayish brown or brown to dark yellowish brown. The B1 horizon, where present, is red to yellowish-brown sandy loam to sandy clay loam. The B21t and B22t horizons range from red to yellowish red. They are mainly sandy clay loam but range to clay loam in a few places. The B23t horizon is red to dark-red sandy clay loam to clay loam. Thickness of the solum is 60 to more than 72 inches.

Orangeburg soils commonly occur with Red Bay, Faceville, and Greenville soils. Their surface layer and subsurface layer are not so red as those of Red Bay soils. They resemble Faceville soils in color but contain less clay in the subsoil. Orangeburg soils contain less clay and are not so red as Greenville soils.

Orangeburg loamy sand, 0 to 2 percent slopes (OeA).—This soil is on uplands. It has a profile similar to the one described as representative of the Orangeburg series, but the surface layer is loamy sand that is 9 to 10 inches thick in most places and ranges from 7 to 17 inches (fig. 7).

Included with this soil in mapping were small areas of Faceville or Lucy soils.

This Orangeburg soil is cultivated extensively and is well suited to most locally grown crops. It is also well suited to pasture and pine trees. Tilth is good, and crops respond well to applications of fertilizer to the soil and to other good management practices. Runoff is slow, and erosion is not a hazard. Capability unit I-1; woodland suitability group 2o1.

Orangeburg loamy sand, 2 to 5 percent slopes (OeB).—This soil has the profile described as representative of the Orangeburg series. The original surface layer has been thinned by erosion, and it is loamy sand 6 to 7 inches thick in most places. The present surface layer is a mixture of the original surface layer and part of the subsoil. The sandy clay loam subsoil is exposed in some places, and a few shallow gullies and rills have formed in some areas.

Included with this soil in mapping were a few small areas of Faceville and Lucy soils. Also included were Orangeburg soils in which the surface layer is 8 to 18 inches thick and some areas in which the surface layer is sandy loam.

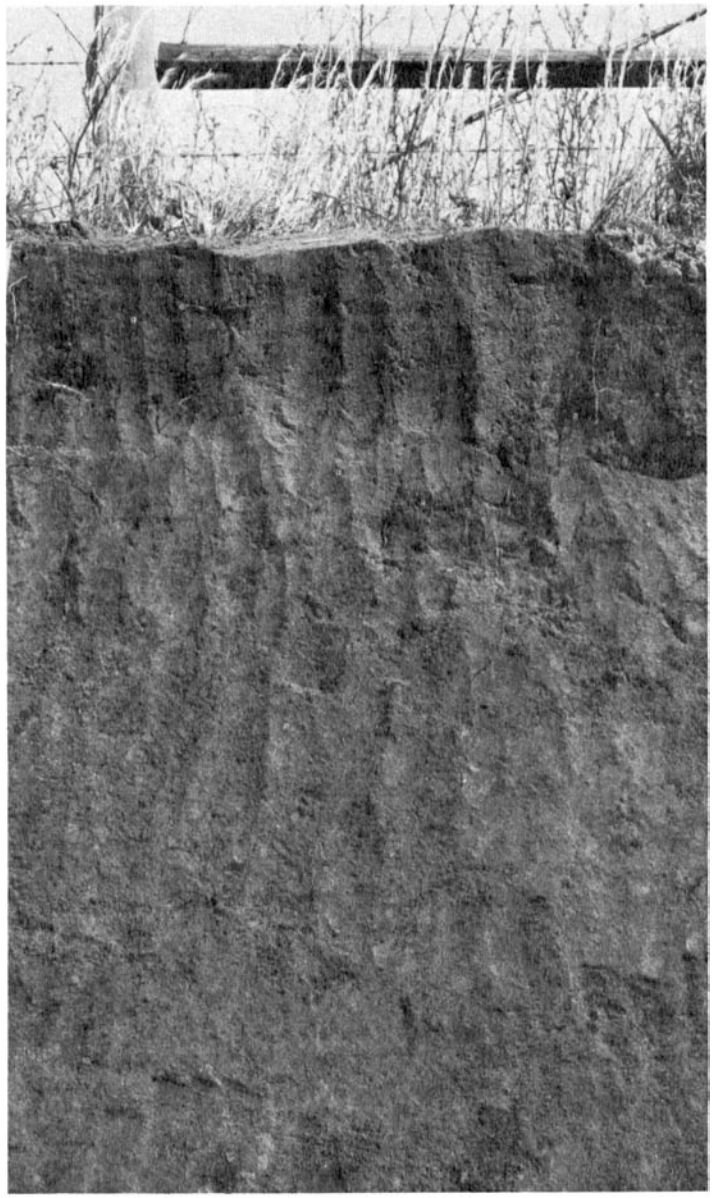

Figure 7.—A cut in an area of Orangeburg loamy sand, 0 to 2 percent slopes. No layers that restrict the growth of roots are at a depth of less than 60 inches.

This soil is well suited to most locally grown crops, but erosion control practices are needed in cultivated areas. It is also well suited to pasture and pine trees. Tilth is good, and crops respond well to applications of fertilizer to the soil and to other good management practices. Most of the acreage is used for cultivated crops or pasture. Capability unit IIe-1; woodland suitability group 2o1.

Orangeburg loamy sand, 5 to 8 percent slopes, eroded (OeC2).—This soil has a profile similar to the one described as representative of the Orangeburg series, except that erosion has thinned the original surface layer, and it is now reddish-brown to dark-brown loamy sand 4 to 6 inches thick in most places and is sandy loam in a few places. The surface layer extends into the upper part of the subsoil in many places and exposes the red to yellowish-red sandy

clay loam subsoil. Shallow gullies and rills have formed, and an occasional deep gully occurs in a few areas.

Included with this soil in mapping were a few small areas of Faceville soils and a few small areas of soils that are only slightly eroded.

This Orangeburg soil is suited to most locally grown crops and is well suited to pasture and pine trees. Some of the acreage is cultivated, but most is in pasture or pine trees. The hazard of erosion is severe if this soil is cultivated and not protected. Tilth is good except in places where the sandy clay loam subsoil is exposed. Crops respond well to applications of fertilizer and to other good management practices. Capability unit IIIe-1; woodland suitability group 2o1.

Orangeburg loamy sand, 8 to 12 percent slopes, eroded (OeD2).—This soil is mainly on side slopes along small drainageways and streams. It has a profile similar to that described as representative of the Orangeburg series except that erosion has thinned the original surface layer. The surface layer is reddish-brown to dark-brown loamy sand 4 to 6 inches thick in most places. In cultivated areas the surface layer extends into the upper part of the subsoil in many places, and there are patches where the red to yellowish-red sandy clay loam subsoil is exposed. A few shallow gullies and rills have formed in many areas, and in some areas there is an occasional deep gully.

Included with this soil in mapping were small areas of Esto and Vaucluse soils and a few areas of soils that have slopes as steep as 20 percent. In a few small areas, the surface layer is sandy loam.

This soil is suited to most locally grown crops, but most of the acreage is in trees because of the rapid runoff and very severe hazard of erosion. It is better suited to pasture and pine trees than to other uses. Capability unit IVe-1; woodland suitability group 2o1.

Rains Series

The Rains series consists of poorly drained, nearly level soils in slight depressions or in poorly defined drainageways in uplands. These soils are mainly in Sumter County. Slopes are 0 to 2 percent.

In a representative profile the surface layer is very dark gray sandy loam about 8 inches thick. The subsoil, to a depth of 60 inches, is gray sandy clay loam that is mottled yellowish brown and strong brown in the upper and middle parts and light olive brown and strong brown in the lower part.

These soils are low in natural fertility and low in content of organic matter. Reaction is strongly acid to very strongly acid throughout. Permeability is moderate, available water capacity is medium, and runoff is slow. The water table is near the surface for periods of 6 months or longer, and water stands for long periods in wet seasons. The depth to which most plant roots penetrate is determined by the depth to the water table.

Unless these soils are drained, they are poorly suited to cultivated crops because of wetness and the hazard of flooding. Most of the acreage is wooded, but a few areas have been drained and are in pasture. Pine trees have been planted in some of the drained areas. Much of the woodland is made up of native vegetation, which is mainly blackgum, water oak, sweetgum, scattered pines, and an understory of gallberry and other water-tolerant plants.

Representative profile of Rains sandy loam in Sumter County, 2.3 miles west of Lake Blackshear along Lee and Sumter county line, 1.3 miles north on paved county road, 100 yards east of road:

A1—0 to 8 inches, very dark gray (10YR 3/1) sandy loam; weak, fine, granular structure; very friable; many fine roots; strongly acid; clear, smooth boundary.

B1tg—8 to 16 inches, gray (5Y 6/1) sandy loam; few, fine, distinct, light yellowish-brown (2.5Y 6/4) mottles; weak, fine, subangular blocky structure; friable; few fine roots; strongly acid; clear, wavy boundary.

B21tg—16 to 30 inches, gray (5Y 6/1) sandy clay loam; common, medium, distinct, yellowish-brown (10YR 5/8) and few, fine, prominent, strong-brown (7.5YR 5/6) mottles; moderate, medium, subangular blocky structure; friable; few fine roots; very strongly acid; gradual, wavy boundary.

B22tg—30 to 42 inches, gray (5Y 6/1) sandy clay loam; many, medium, distinct, yellowish-brown (10YR 5/8) and few, fine, prominent, strong-brown (7.5YR 5/6) mottles; moderate, medium, subangular blocky structure; friable; few fine roots; very strongly acid; gradual, wavy boundary.

B23tg—42 to 60 inches, gray (5Y 5/1) sandy clay loam; common, fine and medium, distinct mottles of light olive brown (2.5Y 5/4) and common, medium, prominent, strong-brown (7.5YR 5/6) mottles; moderate, medium, subangular blocky structure; friable; few fine roots in upper part; very strongly acid.

The A horizon ranges from 5 to 15 inches in thickness. The A1 horizon is dark grayish brown to very dark gray. The B1tg horizon is light olive-gray to very dark gray sandy loam 4 to 9 inches thick. It is absent in some places. The B2tg horizon is gray to light-gray sandy clay loam that is mottled with shades of brown and red. The solum is 60 to more than 70 inches thick.

The Rains soils commonly occur among the Norfolk, Grady, and Goldsboro soils. They are wetter and have a grayer subsoil than the Norfolk soils, and they have less clay in the subsoil than the Grady soils. They are more poorly drained than the Goldsboro soils and are grayer throughout the subsoil.

Rains sandy loam (Ros).—This soil is in depressions and in poorly defined drainageways. Slopes range from 0 to 2 percent.

Included with this soil in mapping were small areas of Grady soils. Also included were small areas of a gray, wet soil that has 30 to 48 inches of loamy sand and sand over mottled, clayey material.

In this Rains soil the water table fluctuates and is near the surface in winter and in spring. The soil is flooded for long periods during wet seasons. Because this soil is wet and subject to flooding, it is poorly suited to cultivated crops unless extensive drainage is provided. It is well suited to pasture if adequate drainage and fertilizer are provided. This soil is also well suited to trees. Most of the acreage is wooded, but some is in pasture. Capability unit Vw-4; woodland suitability group 2w3.

Red Bay Series

The Red Bay series consists of well-drained, friable soils on uplands. These soils are widely scattered over the two counties. The slopes are chiefly 0 to 8 percent but are as much as 17 percent in places.

In a representative profile the surface layer is dark reddish-brown sandy loam about 8 inches thick. The subsoil extends to a depth of 77 inches and is dark-red sandy clay loam.

These soils are moderate to low in natural fertility and low in content of organic matter. Reaction is strongly acid

throughout, and the root zone is thick. Permeability is moderate, and available water capacity is medium.

The less sloping Red Bay soils are some of the better soils in the survey area for farming. They are suited to the locally grown crops, grasses, and pine trees. The steeper Red Bay soils are not well suited to cultivated crops because of the erosion hazard. Red Bay soils respond well to good management practices. Most of the acreage is used for cultivated crops and pasture.

Representative profile of Red Bay sandy loam, 0 to 2 percent slopes, in a cultivated field in Sumter County, 0.75 mile north of Maddox and 100 yards east of Central of Georgia Railway Co. tracks:

Ap—0 to 8 inches, dark reddish-brown (5YR 3/3) sandy loam; weak, fine, granular structure; very friable; common fine roots; strongly acid; clear, smooth boundary.

B1t—8 to 12 inches, dark-red (2.5YR 3/6) sandy clay loam; weak, fine, subangular blocky structure; friable; common, fine roots; strongly acid; clear, smooth boundary,

B21t—12 to 40 inches, dark-red (2.5YR 3/6) sandy clay loam; moderate, medium, subangular blocky structure; friable; few fine roots; clay films on some ped surfaces; strongly acid; gradual, smooth boundary.

B22t—40 to 77 inches, dark-red (2.5YR 3/6) sandy clay loam; weak, medium, subangular blocky structure; friable; few fine roots; clay films on some ped surfaces; strongly acid.

The Ap horizon ranges from dark reddish brown to dark brown in color and from 4 to 10 inches in thickness. The B1 horizon is dark reddish-brown to red sandy loam or sandy clay loam. It is absent in many places. The B2t horizon is dark-red to red sandy clay loam or sandy loam. It is 18 to 35 percent clay. The solum ranges from 60 to more than 77 inches in thickness.

The Red Bay soils commonly occur with Orangeburg, Faceville, and Greenville soils. They are similar to Orangeburg soils but have a browner surface layer. Their subsoil contains less clay than Faceville soils, and they have a brown surface layer. They resemble Greenville soils in color but contain less clay in the subsoil.

Red Bay sandy loam, 0 to 2 percent slopes (RhA).—This soil is on uplands. It has the profile described as representative of the Red Bay series. The surface layer is 8 to 10 inches thick. In a few places the plow layer extends into the upper part of the subsoil.

Included with this soil in mapping were a few areas in which the surface layer is loamy sand. Also included were small areas of Greenville soils.

This Red Bay soil is one of the better soils in the area for farming. It is well suited to locally grown crops, and it is also well suited to pasture and pine trees. Tilth is good. Crops respond well to applications of fertilizer to the soil and to other good management practices. Runoff is slow, and erosion is not a hazard. Most of the acreage is used for cultivated crops and pasture. Capability unit I-1; woodland suitability group 2o1.

Red Bay sandy loam, 2 to 5 percent slopes (RhB).—This well-drained soil is on uplands. It has a profile similar to the one described as representative of the Red Bay series, but the surface layer is 5 to 8 inches thick. In some places the plow layer extends into the upper part of the subsoil, and there are patches where the subsoil is exposed. A few shallow gullies and rills have formed in some areas, and in some places the surface layer is loamy sand.

Included with this soil in mapping were small areas of Greenville soils.

This Red Bay soil is well suited to cultivated crops and pasture, and most of the acreage is used for these purposes. Pine trees also grow well on this soil. Tilth generally is good except in places where the subsoil is exposed. Because of the slope and runoff, erosion is a moderate hazard. If this soil is cultivated, erosion-control practices are needed. Capability unit IIe-1; woodland suitability group 2o1.

Red Bay sandy loam, 5 to 8 percent slopes, eroded (RhC2).—This soil has a profile similar to the one described as representative of the Red Bay series, but the surface layer has been thinned by erosion. The surface layer is 4 or 5 inches thick in most places but ranges to 8 inches in a few places. Also, the surface layer is loamy sand in a few places. In many places the plow layer extends into the upper part of the subsoil, and in some places the dark-red subsoil is exposed. A few shallow gullies and rills have formed in many areas, and in a few areas there is an occasional deep gully.

Included with this soil in mapping were a few small areas of soils that are only slightly eroded.

This Red Bay soil is suited to most crops grown locally, and some of it is cultivated; but most of the acreage is in pasture or pine trees. The soil is well suited to these uses. Further erosion is a severe hazard in unprotected cultivated areas. Capability unit IIIe-1; woodland suitability group 2o1.

Red Bay sandy loam, 8 to 12 percent slopes, eroded (RhD2).—This soil is on narrow side slopes along small drainageways and streams. It has a profile similar to the one described as representative of the Red Bay series; but erosion has thinned the original surface layer, and it is 4 or 5 inches thick in most places. In many places in cultivated areas, the plow layer extends into the upper part of subsoil, and the subsoil is exposed in some spots. A few shallow gullies and rills have formed, and in some areas there is an occasional deep gully.

Included with this soil in mapping were small areas where slopes are as steep as 20 percent, and in a few places the surface layer is loamy sand.

This Red Bay soil is suited to most locally grown crops, and it is well suited to pasture and pine trees. Most of the acreage is wooded, however, because slopes cause rapid runoff in cleared areas, and the hazard of further erosion is very severe. Capability unit IVe-1; woodland suitability group 2o1.

Tifton Series

The Tifton series consists of well-drained, pebbly soils that are mostly on broad, smooth ridgetops. These soils occur in medium and large areas, mostly in Sumter County. Slopes are mainly 0 to 8 percent.

In a representative profile the surface layer is dark grayish-brown sandy loam about 7 inches thick. The subsoil, to a depth of 42 inches, is mainly yellowish-red sandy clay loam. Below this, to a depth of 62 inches, it is sandy clay loam mottled with shades of gray, red, and brown. Few to many small iron pebbles are scattered throughout the profile.

Natural fertility is moderate to low, and the content of organic matter is low. Reaction is strongly acid throughout, and the root zone is thick. Permeability is moderate, and available water capacity is medium.

The Tifton soils are among the better soils in the survey area for farming. Most of the acreage is cultivated or is in

pasture. These soils are well suited to the locally grown crops, grasses, and pine trees. They respond well to good management.

Representative profile of Tifton sandy loam, 2 to 5 percent slopes, eroded, in a cultivated area in Sumter County, 1.5 miles south of U.S. Highway 280 and 1 mile east of Georgia Highway 195, near Leslie:

Apcn—0 to 7 inches, dark grayish-brown (10YR 4/2) sandy loam; weak, fine, granular structure; very friable; many fine roots; about 12 percent small iron concretions; strongly acid; abrupt, smooth boundary.

B1tcn—7 to 11 inches, strong-brown (7.5YR 5/6) sandy clay loam; weak, medium, subangular blocky structure; friable; common fine roots; about 8 percent small iron concretions; strongly acid; clear, smooth boundary.

B21tcn—11 to 36 inches, yellowish-red (5YR 4/8) sandy clay loam; moderate, medium, subangular blocky structure; friable; clay films on some ped surfaces, in root holes, and around the small iron concretions; few fine roots; about 13 percent iron concretions; strongly acid; gradual, wavy boundary.

B22tcn—36 to 42 inches, yellowish-red (5YR 5/8) sandy clay loam; common, medium, distinct mottles of red (2.5 YR 5/8) and yellowish brown (10YR 5/6); moderate, medium, subangular blocky structure; friable; clay films on some ped surfaces, in root holes, and around the small iron concretions; few fine roots; about 15 percent small iron concretions; less than 5 percent soft plinthite; strongly acid; gradual, wavy boundary.

B23t—42 to 62 inches, mottled yellowish-brown (10YR 5/6), red (2.5YR 4/6), and light-gray (10YR 7/2) sandy clay loam; moderate, medium, subangular blocky structure; firm; clay films on some ped surfaces and around the iron concretions; soft plinthite, 15 to 25 percent; strongly acid.

The Ap horizon is dark grayish brown to dark yellowish brown in most places. In some of the eroded areas, however, plowing has mixed the original A horizon with the B1tcn horizon, and the color ranges from yellowish red to yellowish brown. The B1tcn horizon is yellowish-red to dark yellowish-brown sandy loam or sandy clay loam. This horizon is absent in some places. The B21t and B22t horizons are mostly yellowish red to yellowish brown and range to red in a few places. The B21t and B22t horizons are mainly sandy clay loam but range to sandy clay in the lower part of the B22t horizon in some areas. The solum is more than 60 inches thick. Small iron pebbles that range in diameter from ⅛ to ¾ inch make up about 5 to 25 percent, by volume, of all horizons. Soft plinthite commonly occurs at a depth of 30 to 50 inches and makes up to 10 to 35 percent of the soil material.

Tifton soils commonly occur with Greenville, Faceville, Irvington, and Carnegie soils. They have a grayer surface layer and a subsoil that is not so red as that of Greenville soils. Tifton soils have soft plinthite in the subsoil, but Greenville and Faceville soils are commonly lacking in plinthite. Tifton soils are better drained than the Irvington soils. They have soft plinthite at a depth of 30 inches or more, but in Carnegie soils soft plinthite is at a depth of 24 inches or less.

Tifton sandy loam, 0 to 2 percent slopes (TuA).—This soil is on uplands. It has a profile similar to the one described as representative of the Tifton series, but the surface layer is 8 to 10 inches thick.

In a few places the plow layer extends into the upper part of the subsoil. Iron pebbles are on the surface and scattered throughout the profile.

Included with this soil in mapping were a few small areas of Norfolk soils and a few areas where the surface layer is loamy sand.

This Tifton soil is one of the better soils in the area for farming. It is cultivated extensively and is well suited to most locally grown crops. It is also well suited to pasture and pine trees. Tilth is good, and crops respond well to the applications of fertilizer to the soil and other good management practices. Runoff is slow, and erosion is not a hazard. Capability unit I–2; woodland suitability group 2o1.

Tifton sandy loam, 2 to 5 percent slopes, eroded (TuB2).—This soil has the profile described as representative of the Tifton series. Erosion has thinned the original surface layer, and it generally is 5 to 7 inches thick. The plow layer extends into the upper part of the subsoil in many places, and there are patches where the subsoil is exposed. A few shallow gullies and rills have formed in some areas.

Included with this soil in mapping were small areas that are only slightly eroded, and in a few places the surface layer is loamy sand. Also included are small areas of Faceville soils that are too small to be mapped separately.

This soil is extensively cultivated, and it is well suited to most local crops. It is also well suited to pasture and to pine trees. Tilth is generally good except in places where the subsoil is exposed. Because of the slope and runoff, erosion is a moderate hazard. Erosion-control practices are needed if the soil is cultivated. Capability unit IIe–2; woodland suitability group 2o1.

Tifton sandy loam, 5 to 8 percent slopes, eroded (TuC2).—This soil has a profile similar to the one described as representative of the Tifton series; but erosion has thinned the original surface layer, which is 4 to 6 inches thick in most places. The plow layer extends into the upper part of the subsoil in many places, and in some places the subsoil is exposed. A few shallow gullies and rills have formed, and in a few areas there is an occasional deep gully.

Included with this soil in mapping were small areas of Faceville soils that are too small to be mapped separately. Slopes are as steep as 12 percent in a few places along some of the drainageways and streams.

This Tifton soil is suited to most local crops. Some of the acreage is cultivated, and much of it is in pasture and pine trees. The hazard of erosion is severe in cultivated areas. The soil is well suited to these uses. Capability unit IIIe–2; woodland suitability group 2o1.

Vaucluse Series

The Vaucluse series consists of well-drained soils that have a weakly cemented, brittle layer in the subsoil. These soils are on uplands. Slopes range from 2 to 17 percent.

In a representative profile the surface layer is dark grayish-brown loamy sand, about 5 inches thick. The subsoil, to a depth of 18 inches, is yellowish-brown and strong-brown friable sandy loam and sandy clay loam. Below this, to a depth of 38 inches, the subsoil is firm, compact, weakly cemented, mottled, yellowish-red sandy clay loam. The lower part of the subsoil, to a depth of 60 inches, is yellowish-red sandy loam or sandy clay loam mottled in shades of brown and gray.

These soils are low in natural fertility and low in content of organic matter. Reaction is very strongly acid throughout. Permeability is moderately slow, and available water capacity is medium to low. The compact and weakly cemented part of the subsoil impedes root growth.

Vaucluse soils generally are not well suited to cultivated crops, particularly the steeper Vaucluse soils. Some of the less sloping soils are used for cultivated crops and pasture, but most of the acreage is in natural vegetation or pine

trees that have been planted. The natural vegetation is chiefly pine trees and mixed hardwoods.

Representative profile of Vaucluse loamy sand, 8 to 17 percent slopes, eroded, in Schley County, in an area of pine trees, 3 miles west of Ellaville on Georgia Highway 26, then 2 miles northwest on paved county road on which the Hopewell Church is located and 0.5 mile north on a county road (sample profile in west road bank):

Ap—0 to 5 inches, dark grayish-brown (2.5Y 4/2) loamy sand; weak, fine, granular structure; very friable; few small fragments of ironstone on the surface; many small roots; very strongly acid; clear, smooth boundary.

B1t—5 to 12 inches, yellowish-brown (10YR 5/8) sandy loam; weak, fine, granular structure; friable; clay bridging sand grains; common small roots; very strongly acid; clear, smooth boundary.

B21t—12 to 18 inches, strong-brown (7.5YR 5/8) sandy clay loam; weak, fine and medium, subangular blocky structure; friable; clay films on some ped surfaces; common small roots; very strongly acid; clear, wavy boundary.

Bx—18 to 38 inches, yellowish-red (5YR 5/8) sandy clay loam and a few coarse sand grains; veins that form common, coarse, distinct, yellowish-brown (10YR 5/6) mottles and few, coarse, distinct, very pale brown (10YR 7/3) mottles; massive in place parting to weak, medium, subangular blocky structure; firm; compact, weakly cemented, and brittle; clay films on some ped surfaces; few small roots in upper 6 inches of horizon; very strongly acid; gradual, wavy boundary.

B3t—38 to 60 inches, yellowish-red (5YR 5/8) sandy loam to sandy clay loam that contains many coarse sand grains; veins that form common, coarse, distinct yellowish-brown (10YR 5/6) and few, coarse, distinct very pale brown (10YR 7/3) mottles; few, small pieces and balls of light-gray (10YR 7/1) kaolin clay; massive in place parting to weak, granular structure; compact, weakly cemented and brittle; clay bridging between sand grains; very strongly acid.

The A1 horizon ranges from 3 to 8 inches in thickness. Typically, it is dark grayish-brown to grayish-brown and light yellowish-brown loamy sand. The B1t horizon is yellowish-red to yellowish-brown sandy loam to sandy clay loam. It is typically less than 8 inches thick and is absent in many places. The B21t horizon is yellowish-red to yellowish-brown sandy clay loam 4 to 17 inches thick. The Bx horizon generally begins at a depth of about 18 inches but ranges to a depth of 12 to 24 inches. The texture ranges from coarse sandy loam to sandy clay loam. Few to common small fragments of ironstone and quartz pebbles are scattered over the surface and throughout the soil in some areas. The underlying material below the Bx horizon varies from place to place. It ranges from sand to clay.

Vaucluse soils commonly occur among the Lakeland, Lucy, Esto, and Orangeburg soils. They are less sandy than Lakeland or Lucy soils and are not as clayey in the subsoil as the Esto soils. They resemble the Orangeburg soils in color but have a firm, compact, and weakly cemented layer in the subsoil.

Vaucluse loamy sand, 2 to 5 percent slopes, eroded (VeB2).—This soil is on uplands. It has a firm, weakly cemented and brittle layer in the subsoil. It has a profile similar to the one described as representative of the Vaucluse series, except that the surface layer generally is 6 to 8 inches thick. Erosion has caused a few shallow rills and an occasional shallow gully to form; and in small, scattered patches, the subsoil is exposed because of erosion.

Included with this soil in mapping were small areas of Esto, Lakeland, and Orangeburg soils that are too small to map separately.

This Vaucluse soil is fairly well suited to most locally grown shallow-rooted crops.

Crops respond fairly well to applications of fertilizer to the soil and to other good management practices. Further erosion is a moderate hazard in bare, cultivated fields, and erosion control practices are needed in those areas. Some of the acreage is used for cultivated crops. Most of it, however, is in pasture or pine trees, and it is well suited to these uses. Capability unit IIIe-4; woodland suitability group 3o1.

Vaucluse loamy sand, 5 to 8 percent slopes, eroded (VeC2).—This soil is on uplands in areas of small to medium size. Moderate erosion has caused a few shallow rills and gullies to form. In many areas, there are few to many small, scattered patches where erosion has exposed the subsoil.

Included with this soil in mapping were small areas of Esto, Lucy, Lakeland, and Orangeburg soils.

This soil is fairly well suited to most of the shallow-rooted crops commonly grown in the area; but the hazard of further erosion is severe in bare, cultivated fields. Careful management and erosion control are needed if this soil is cultivated. A little of the acreage is used for cultivated crops and pasture, but most of it is in planted pines or natural vegetation. This soil is well suited to pasture and pine trees. Capability unit IVe-4; woodland suitability group 3o1.

Vaucluse loamy sand, 8 to 17 percent slopes, eroded (VeE2).—This soil is on narrow to long side slopes along streams and drainageways. It has the profile described as representative of the Vaucluse series. Moderate erosion has caused a few shallow rills and gullies to form in some areas. Erosion also has removed part of the original surface layer, and in a few spots it has exposed the subsoil. A few deep gullies have formed in some areas.

Included with this soil in mapping are small areas of Esto, Lucy, Lakeland, and Orangeburg soils.

Because of the slope and very severe erosion hazard, this soil is not suited to tilled crops and generally is best suited to pine trees. Most of the acreage is in planted pine trees or natural vegetation. Capability unit VIIe-2; woodland suitability group 3o1.

Use and Management of Soils

This section contains interpretations about the predicted behavior of the soils in Schley and Sumter Counties under specified conditions of use and management. The interpretations are for soils used for crops and pasture, as woodland, for engineering purposes, for community development, and as wildlife habitat. Changing economic conditions, new techniques of farm management, new machines and materials, and improved crop varieties are some of the things that affect the behavior of the soils and influence soil use and management. These factors must be considered when the interpretations in this section are applied.

Use of the Soils for Cultivated Crops and Pasture [2]

This subsection explains the system of capability classification used by the Soil Conservation Service. It also suggests basic management practices that are needed for the

[2] JAMES N. NASH, conservation agronomist, Soil Conservation Service, helped to prepare this subsection.

soils of the survey area and describes, in more detail, management practices that are suitable for groups of soils that have similar properties, limitations to use, and management requirements. This subsection also gives estimated yields of the principal crops and pasture plants grown in these two counties under a high level of management.

Capability grouping

Capability grouping shows, in a general way, the suitability of soils for most kinds of field crops. The soils are grouped according to their limitations when used for field crops, the risk of damage when they are used, and the way they respond to treatment. The grouping does not take into account major and generally expensive landforming that would change slope, depth, or other characteristics of the soils; does not take into consideration possible but unlikely major reclamation projects; and does not apply to horticultural crops, or to rice and other crops that require special management.

Those familiar with the capability classification can infer from it much about the behavior of soils when used for other purposes, but this classification is not a substitute for interpretations designed to show suitability and limitations of groups of soils for range, for forest trees, or for engineering.

In the capability system, the kinds of soil are grouped at three levels: the capability class, the subclass, and the unit. These are discussed in the following paragraphs.

CAPABILITY CLASSES, the broadest groups, are designated by Roman numerals I through VIII. The numerals indicate progressively greater limitations and narrower choices for practical use, defined as follows:

- Class I. Soils have few limitations that restrict their use.
- Class II. Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class III. Soils have severe limitations that reduce the choice of plants, require special conservation practices, or both.
- Class IV. Soils have very severe limitations that reduce the choice of plants, require very careful management, or both.
- Class V. Soils are subject to little or no erosion but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife habitat.
- Class VI. Soils have severe limitations that make them generally unsuited to cultivation and limit their use largely to pasture or range, woodland, or wildlife habitat.
- Class VII. Soils have very severe limitations that make them unsuited to cultivation and that restrict their use largely to pasture or range, woodland, or wildlife habitat.
- Class VIII. Soils and landforms have limitations that preclude their use for commercial plants and restrict their use to recreation, wildlife habitat or water supply, or to esthetic purposes. (None in Schley and Sumter Counties.)

CAPABILITY SUBCLASSES are soil groups within one class; they are designated by adding a small letter, *e*, *w*, *s*, or *c*, to the class numeral, for example, IIe. The letter *e* shows that the main limitation is risk of erosion unless close-growing plant cover is maintained; *w* shows that water in or on the soil interferes with plant growth or cultivation (in some soils the wetness can be partly corrected by artificial drainage); *s* shows that the soil is limited mainly because it is shallow, droughty, or stony; and *c*, used in only some parts of the United States, but not in Schley and Sumter Counties, shows that the chief limitation is climate that is too cold or too dry.

In class I there are no subclasses, because the soils of this class have few limitations. Class V can contain, at the most, only the subclasses indicated by *w*, *s*, and *c*, because the soils in class V are subject to little or no erosion, though they have other limitations that restrict their use largely to pasture, range, woodland, wildlife habitat, or recreation.

CAPABILITY UNITS are soil groups within the subclasses. The soils in one capability unit are enough alike to be suited to the same crops and pasture plants, to require similar management, and to have similar productivity and other responses to management. Thus, the capability unit is a convenient grouping for making many statements about management of soils. Capability units are generally designated by adding an Arabic numeral to the subclass symbol, for example, IIe-2 or IIIs-1. Thus, in one symbol, the Roman numeral designates the capability class, or degree of limitation; the small letter indicates the subclass or kind of limitation, as defined in the foregoing paragraph; and the Arabic numeral specifically identifies the capability unit within each subclass.

Management by capability units

The soils of Schley and Sumter Counties have been placed in capability units. The soils in each unit have about the same limitations and susceptibility to damage, need about the same management, and respond to management in about the same way. For the soils of these two counties, the main practices needed are those that help control erosion, provide drainage, and help to maintain good tilth and fertility. Fertilizer and lime are needed on all of the soils that are cultivated or used for pasture.

Many of the soils in the two counties are susceptible to erosion if they are cultivated. The degree of susceptibility depends on the erodibility of the soil, the frequency and intensity of rainfall, the steepness of slopes, and the length of slopes. These properties determine whether the farmer uses straight rows, contour cultivation with or without terraces, or stripcropping. For the more gently sloping soils, for example those in capability unit IIe-1, only contour cultivation and a cropping system that provides a medium to large amount of crop residue may be needed. For steeper soils or soils that have long slopes, a combination of straight-row farming, contour farming without terraces, or stripcropping, and a cropping system that includes annual close-growing crops, high residue-producing crops, or perennial crops may be needed. Regardless of the practice used, a grassed waterway or outlet is essential if soils are used for cultivated crops.

The main practices needed for some of the soils, especially the sandy ones in capability units IIs-1, IIIs-1, and VIs-1, are the applications of fertilizer according to the results of soil tests and the use and good management of large quantities of crop residue. A cropping system which includes perennial grasses or legumes is beneficial. Strip-

cropping and contour cultivation are also important on some sandy soils.

For soils in capability units that have a *w* subclass, the drainage needed depends on the amount of water in the soil and the kinds of crops grown. After the water is controlled, only practices that help to maintain productivity and good tilth are needed. Some of these practices are applying lime and fertilizer regularly and in amounts needed as indicated by results of soil tests, managing crop residue efficiently, and using a suitable cropping system.

Other practices that are beneficial to the soils in the two counties are (1) growing perennial grasses at the edges of fields so that the hazard of erosion and the growth of weeds are reduced; (2) locating farm roads or fences on the crests of slopes, on divides of watersheds, or on the contour; (3) arranging crop rows so that they do not interfere with fieldwork; and (4) locating fences in or adjacent to natural waterways where practical.

In the following pages, the capability units in Schley and Sumter Counites are described and suggestions for use and management of the soils are given. The names of the soil series represented in a capability unit are shown in the description of the capability unit, but this does not mean that all soils of a given series appear in the unit. To find the names of all the soils in any given capability unit, refer to the "Guide to Mapping Units" at the back of this survey. Numbers for capability units are not consecutive in Schley and Sumter Counties, because a statewide system of numbering is used and not all of the different units established in Georgia are represented in these two counties.

CAPABILITY UNIT I-1

This unit consists of well-drained soils on uplands. These soils are in the Norfolk, Orangeburg, and Red Bay series. They have a surface layer of very friable loamy sand or sandy loam, mainly about 8 to 10 inches thick. The subsoil is chiefly friable sandy clay loam. Slopes range from 0 to 2 percent.

These soils are low to moderate in natural fertility and low in content of organic matter. They are strongly acid. Tilth generally is good, and the soils can be cultivated throughout a wide range of moisture content. The root zone is thick. Water moves through these soils at a moderate rate, and available water capacity is medium.

The soils in this unit are well suited to such crops as corn, cotton, peanuts, soybeans, small grain, pecans, and truck crops. They are also well suited to bahiagrass, bermudagrass, crimson clover, lespedeza, and other crops grown for hay or pasture. Most of the acreage is used for cultivated crops and pasture.

These soils are easy to manage. Any suitable crop can be grown year after year if enough plant residue is returned to keep the soils in good tilth. A planned sequence of crops helps to control weeds, insects, and diseases. This practice also helps to improve the effectiveness of fertilizer.

CAPABILITY UNIT I-2

This unit consists of well-drained soils on uplands. These soils commonly have slopes of less than 2 percent. They are in the Faceville, Greenville, and Tifton series. The surface layer is very friable sandy loam about 5 to 10 inches thick, and the subsoil is friable to firm sandy clay, clay, or sandy clay loam. The Tifton soil has small iron pebbles on the surface and in the soil profile.

The soils of this unit are moderate to low in natural fertility and low in content of organic matter. They are strongly acid. Tilth generally is good, and the root zone is thick. The range of moisture content within which these soils can be cultivated is narrower than that for the soils of capability unit I-1, and more power is required to pull tillage implements. Water moves through these soils at a moderate rate, and available water capacity is medium.

The soils in this unit are well suited to corn, cotton, peanuts, small grain, soybeans, pecans, and such pasture and hay plants as bahiagrass, bermudagrass, crimson clover, and lespedeza. Most of the acreage is used for cultivated crops and pasture.

These soils are easy to manage. Suitable crops can be grown year after year if enough plant residue is returned to the soils to maintain good tilth (fig. 8). A planned sequence of crops helps to control weeds, insects, and diseases. This practice also helps to improve the effectiveness of fertilizer.

CAPABILITY UNIT IIe-1

This unit consists of well-drained soils on uplands. Slopes are 2 to 5 percent. These soils are in the Norfolk, Orangeburg, and Red Bay series. The surface layer is very friable loamy sand or sandy loam about 5 to 9 inches thick. The subsoil is mainly friable sandy clay loam.

The soils in this unit are moderate to low in natural fertility and are strongly acid. The content of organic matter is low. Tilth is good, and the soils can be cultivated throughout a wide range of moisture content except in a few areas where erosion has exposed the subsoil. The root zone is thick. Water moves through these soils at a moderate rate, and available water capacity is medium.

The soils in this unit are well suited to such crops as corn, cotton, peanuts, small grain, pecans, soybeans, and truck crops, and to such pasture and hay crops as bahiagrass, Coastal bermudagrass, and crimson clover. Most acreage is used for cultivated crops and pasture. Runoff is rapid enough to create a moderate hazard of erosion in cultivated areas.

The soils should be managed so that soil losses from erosion will be held within allowable limits. The steepness and length of slopes or the erosion control practices used determine the cropping system needed to accomplish this. A typical example of a suitable cropping system for a terraced soil that has slopes of 3 percent is 1 year of corn followed by 1 year of cotton or rye.

CAPABILITY UNIT IIe-2

This unit consists of well-drained soils on uplands. Slopes are 2 to 5 percent. These soils are in the Faceville, Greenville, and Tifton series. The surface layer is very friable sandy loam about 5 to 8 inches thick but ranges to about 10 inches in some areas of the Tifton soil. The subsoil is friable to firm sandy clay, clay, or sandy clay loam. The Tifton soil has many small iron pebbles on the surface and in the profile.

These soils are moderate to low in natural fertility and low in content of organic matter. They are strongly acid. Tilth generally is good except in a few areas where erosion has exposed the subsoil. The range of moisture content within which these soils can be cultivated is narrower than that for the soils in capability unit IIe-1, and these soils have more clay in the subsoil and are not leached of plant

Figure 8.—**Area of Tifton sandy loam, 0 to 2 percent slopes, used for corn and soybeans. This soil is in capability unit I–2.**

nutrients as readily. The root zone is thick. Water moves through the soils at a moderate rate, and available water capacity is medium.

The soils in this unit are well suited to such crops as corn, cotton, peanuts, small grain, and pecans, and to such pasture and hay crops as bahiagrass, bermudagrass, crimson clover, and lespedeza. Most of the acreage is used for cultivated crops and pasture. Runoff is rapid enough to create a moderate hazard of erosion in cultivated areas.

The soils should be managed so that soil losses from erosion are held within allowable limits. The steepness and length of slopes or the erosion control practices used determine the cropping system needed to accomplish this. An example of a suitable cropping system is a mulch-planted row crop, such as corn, grown year after year. The crop residue should be mowed and left undisturbed for winter cover. This system is suitable for fields that are cultivated on the contour, that are not terraced, and that have slopes no steeper than 3 percent and no more than 300 feet long.

CAPABILITY UNIT IIw–1

The soils of the mapping unit Ochlockonee soils, local alluvium, are the only ones in this unit. These are well-drained soils in small depressions and along drainageways. Slopes generally are less than 2 percent. These soils formed in local alluvium washed from adjoining uplands. The surface layer is recently deposited loamy material 6 inches thick. Beneath the surface layer are thin layers of sandy loam and loamy sand that are interlayered with sand, loam, and sandy clay loam.

The soils in this unit are moderate in natural fertility and in content of organic matter. They are strongly acid and have a thick root zone. Permeability is moderately rapid, and available water capacity is medium. Tilth generally is good.

These soils are suited to most local crops, but because of size, shape, and position, they generally are used and managed for the same kinds of crops or uses as are adjacent soils. Such crops as corn, peanuts, and small grain are suited, and pasture and hay crops include Coastal bermudagrass, bahiagrass, crimson clover, and lespedeza. Crops respond well to fertilizer when adequate amounts are applied according to the results of soil tests. Flooding is a hazard during and after heavy rainfall. In some places shallow ditches are needed to remove excess surface water, which sometimes stands for 2 to 7 days after a heavy rain. Corn and other cultivated crops can be grown year after year if the crop residue is left on the surface.

CAPABILITY UNIT IIw–2

This unit consists of moderately well drained soils that have slopes of 0 to 2 percent. These soils are in the Goldsboro and Irvington series. They generally are between ponded areas and areas of well-drained soils. Some acreage is ponded for a few to several days in periods of wet weather. Generally, the surface layer is very friable sandy loam or loamy sand about 6 to 9 inches thick. The subsoil is mainly friable to firm sandy clay loam. The Irvington soil contains many iron pebbles in the upper part of the soil and has a fragipan as the middle part of the subsoil.

The soils in this unit are low in organic-matter content and moderate to low in natural fertility. They are strongly acid. Tilth is good, and the root zone is thick in the Goldsboro soil and moderately thick in the Irvington soil. Water movement through these soils generally is moderate, but it is slow in and below the fragipan of the Irvington soil. Available water capacity is medium.

If adequately drained, soils in this unit are suited to such cultivated crops as corn, peanuts, and small grain and to such hay and pasture crops as Coastal bermudagrass, bahiagrass, white clover, and lespedeza. Some areas of these soils are used for cultivated crops, but most are in pasture or are covered by natural vegetation which is mostly pines and scattered hardwoods.

Excess water is the main limitation to use of these soils for crops. The type of water management needed depends on the crop to be grown. Drainage is needed for most cultivated crops, and a system of main and lateral ditches can be installed. Either open ditches or covered tile drains are suitable. When the water problem is solved, any suitable crop can be grown year after year if enough plant residue is returned to the soil and if an adequate level of fertility is maintained. A planned sequence of crops helps to control weeds, insects, and disease. This practice also makes the use of fertilizer more effective. Crops generally respond well to irrigation in long dry periods.

CAPABILITY UNIT IIs-1

Lucy loamy sand, 0 to 5 percent slopes, is the only soil in this unit. This soil is well drained and is in areas of small or medium size. Generally, the surface and subsurface layers are loamy sand. The surface layer is about 9 inches thick, and the subsurface layer about 14 inches thick. The subsoil is mainly friable sandy clay loam.

This soil is low in natural fertility and low in content of organic matter. It is strongly acid or very strongly acid. Movement of water is rapid throughout the upper part of the profile, but it is moderate in the lower part of the subsoil. Available water capacity is low, the root zone is thick, and tilth generally is good.

Most crops that are commonly grown in the area can be grown in this soil, but plant response is somewhat limited because the soil is droughty. Supplemental water is needed by many crops during the dry periods of most growing seasons. The soil is suited to such crops as corn, peanuts, pecans, small grain, and truck crops. It is also suited to such pasture and hay crops as Coastal bermudagrass, crimson clover, and bahiagrass.

The hazard of erosion generally is slight. Maintaining or increasing the content of organic matter to improve available water capacity is important in the management of this soil. An example of a suitable cropping system for fields that are stripcropped on the contour is 1 year of a row crop followed by 1 year of a small grain. All crop residue should be left on the soil.

CAPABILITY UNIT IIIe-1

This capability unit consists of well-drained soils on uplands. Slopes are mainly 5 to 8 percent. These soils are in the Orangeburg and Red Bay series. The surface layer is very friable loamy sand or sandy loam about 5 to 8 inches thick. The subsoil is mainly friable sandy clay loam.

These soils are low in content of organic matter and moderate to low in natural fertility. They are strongly acid. Tilth generally is good except in places where the subsoil is exposed, and the soils can be cultivated throughout a wide range of moisture content. The root zone is thick. Water moves through the soil at a moderate rate, and available water capacity is medium.

The soils in this unit are suited to such crops as corn, cotton, peanuts, small grain, and pecans and to such pasture and hay crops as bahiagrass, bermudagrass, and crimson clover. Most acreage is used for pasture or is wooded, but some areas are cultivated.

Because of runoff, the hazard of erosion is severe when these soils are cultivated. Conservation practices generally are more difficult to apply and maintain than on less sloping soils of the same series.

These soils should be managed so that the soil losses from erosion are held within allowable limits. The steepness and length of slope or the erosion-control practices used determine the cropping system needed to accomplish this. An example of a suitable cropping system is 2 years of corn that is strip tilled (a form of minimum tillage) and 1 year of cotton followed by rye for cover. This system is suitable for a terraced field where slopes are not steeper than 6 percent.

CAPABILITY UNIT IIIe-2

This unit consists of well-drained upland soils of the Faceville, Greenville, and Tifton series. Slopes are 5 to 8 percent. The surface layer is very friable sandy loam about 4 to 8 inches thick. The subsoil is friable to firm sandy clay, clay, or sandy clay loam. The Tifton soils have small iron pebbles on the surface and in the soil material.

The soils of this unit are moderate to low in natural fertility and low in content of organic matter. They are strongly acid. Tilth is generally good, except in a few areas where erosion has exposed the subsoil. The range of moisture content within which these soils can be worked is narrower than that for the soils in capability unit IIIe-1. The root zone is thick. Water moves through these soils at a moderate rate, and available water capacity is medium.

The soils in this unit are suited to such crops as corn, cotton, and small grain and to such pasture and hay crops as bahiagrass, bermudagrass, crimson clover, and lespedeza. Some areas are cultivated, but most of the acreage is in pasture or is wooded.

Runoff causes a severe hazard of erosion in areas that are cultivated. The soils should be managed so that soil losses from erosion can be held within allowable limits. The steepness and length of slope or the erosion-control practices used determine the minimum cropping system needed to accomplish this. An example of a suitable cropping system is 6 years of a grass, such as bahiagrass, followed by 3 years of cotton planted in contoured rows. This system is suitable for slopes of no more than 6 percent or no longer than 150 feet.

CAPABILITY UNIT IIIe-4

This unit consists of well-drained, eroded soils. Slopes are 2 to 8 percent. These soils are in the Carnegie, Henderson, and Vaucluse series. The surface layer ranges from loamy sand to sandy loam and cherty sandy loam. It is mainly 4 to 8 inches thick. The subsoil ranges from sandy clay loam to clay. The Henderson soil has numerous fragments of chert on the surface and in the soil.

The soils of this unit are mainly low to moderate in natural fertility and low in content of organic matter. They

are strongly acid to very strongly acid. Water moves through these soils at a moderately slow to slow rate. Available water capacity is medium. Tilth generally is good, except that chert fragments in the Henderson soil interfere with tillage and operation of farm machinery.

These soils are fairly well suited to such crops as corn, cotton, oats, and rye and to such hay and pasture crops as bahiagrass, Coastal bermudagrass, and crimson clover. Most acreage has been cultivated, but most now is in pasture or is wooded.

Erosion is a moderate to severe hazard where these soils are cultivated, and conservation measures must be used. The kind of measures depend largely on the length and steepness of slopes and the kinds of crops grown. An example of a suitable cropping system is 3 years of bahiagrass followed by 2 years of a row crop. This system is suitable for terraced, contour-cultivated fields in areas where slopes are about 3 percent.

CAPABILITY UNIT IIIs-1

This unit consists of well-drained and somewhat excessively drained soils. Slopes range from 0 to 8 percent. These soils are in the Americus and Lucy series. The surface layer is very friable loamy sand about 6 to 9 inches thick. The underlying layers, to a depth of about 23 to 47 inches, are loamy sand. Below this, to a depth of 60 inches, texture is typically sandy loam or sandy clay loam.

These soils are low in content of organic matter and low in natural fertility. They are strongly acid to very strongly acid throughout. They have good tilth and can be cultivated throughout a wide range of moisture content. Water moves through the upper parts of these soils at a rapid or moderately rapid rate and through the lower part at a moderately rapid or moderate rate. Available water capacity is low, and runoff is slow. The root zone is thick.

These soils are suited to corn, peanuts, small grain, sorghum, and truck crops. Plants suitable for pasture are bahiagrass and Coastal bermudagrass. Most of the acreage is in natural vegetation or planted pine. The soils are well suited to trees. The natural vegetation is mixed hardwoods and pine trees, scattered scrub oak trees, and hawthorn bushes.

Plant response to good management is only fair because these soils are droughty. Erosion is not a severe hazard on these sandy soils. The principal need is that frequent and large amounts of plant residue be returned to the soil to improve available water capacity and fertility. These soils are sandy in the upper part, and plant nutrients tend to leach readily. Best crop response to fertilizer is obtained with split applications. An example of a suitable cropping system is 1 to 2 successive years of a suitable row crop followed by 2 to 4 years of a perennial grass.

CAPABILITY UNIT IVe-1

This unit consists of well-drained, eroded soils. Slopes are 8 to 12 percent. These soils are in the Orangeburg and Red Bay series. The surface layer is very friable loamy sand or sandy loam 4 to 6 inches thick. The subsoil is mainly friable sandy clay loam.

These soils are moderate to low in natural fertility and low in content of organic matter. They are strongly acid throughout. Water moves through these soils at a moderate rate. Available water capacity is medium, and the root zone is thick. Tilth is generally good. Rapid runoff causes a very severe erosion hazard in cultivated fields that are not protected.

Because of the hazard of erosion, the soils in this unit generally are better suited to pasture or trees than to cultivated crops. Corn, cotton, peanuts, small grain, soybeans, and cowpeas are some of the suited crops. Plants suitable for pasture and hay are Coastal bermudagrass, common bermudagrass, Pensacola bahiagrass, ryegrass, crimson clover, servicea lespedeza, sorghum, Starr millet, and browntop millet. Most acreage is wooded.

Good management practices improve tilth and help to control erosion. When these soils are cultivated, careful management is needed. A complete water disposal system is essential. Terraces are difficult to establish and maintain. Generally, a heavy duty cropping system with straight rows or stripcropping is more effective. Residue from row crops should be shredded and left on the soil between growing seasons, and perennial grasses or legumes should be used in the cropping system. The steepness and length of slope and the erosion control practices used determine the cropping system needed to hold soil losses within allowable limits. An example of a suitable cropping system for a 10 percent slope less than 150 feet long is continuous corn that is strip tilled (a form of minimum tillage) in a perennial grass such as bahiagrass.

CAPABILITY UNIT IVe-2

Greenville sandy clay loam, 5 to 8 percent slopes, severely eroded, is the only soil in this unit. The surface layer is sandy clay loam about 3 to 5 inches thick, and the subsoil is friable to firm sandy clay or clay.

This soil is low in content of organic matter and moderate to low in natural fertility. It is strongly acid throughout. Tilth is poor, and the soil can be worked only within a narrow range of moisture content. The root zone is thick. Water moves through this soil at a moderate rate, and available water capacity is medium.

Row crops can be grown occasionally under good management, but this soil is better suited to permanent pasture or trees. Some of the suitable crops are corn, cotton, and small grain. Suitable pasture and hay plants are bahiagrass, bermudagrass, crimson clover, and lespedeza. Most of the acreage is in pasture or is wooded.

Suitable good management will improve tilth and help in the control of erosion. This soil can be used for row crops if it is managed carefully. A complete drainage system is essential. Terraces are difficult to establish and maintain. Generally, a heavy-duty cropping system with straight rows, or stripcropping, is most suitable. Residue from row crops should be shredded and left on the soil, and perennial grasses or legumes should be used in the cropping system. Steepness and length of slope and the erosion-control practices used determine the cropping system needed to hold soil losses within allowable limits. An example of a suitable cropping system is 4 years of such close-growing crops as wheat or rye followed by 2 years of a row crop such as corn. Such a system is suitable for contour-cultivated fields in which slopes are no steeper than 6 percent and are less than 150 feet long.

CAPABILITY UNIT IVe-4

This unit consists of well-drained, eroded soils that have slopes of 5 to 8 percent. These soils are in the Carnegie and Vaucluse series. Typically, the surface layer ranges

from sandy loam to loamy sand and is about 4 to 5 inches thick. The subsoil is mainly sandy clay loam.

The soils of this unit are low in natural fertility and low in content of organic matter. They are strongly acid to very strongly acid. Water moves through these soils at a moderately slow rate. The compacted and cemented layer in the subsoil of the Vaucluse soil impedes the penetration of roots of most plants. Available water capacity is medium to low. Tilth is fair to good. Generally, plants on these soils do not respond to management as well as the soils in capability units IVe-1 and IVe-2.

The soils of this unit are fairly well suited to such crops as corn, oats, and rye and to such hay and pasture crops as bahiagrass, Coastal bermudagrass, and crimson clover. Erosion is a hazard, but cultivated crops can be grown if management is good. The soils are better suited, however, to permanent pasture or trees. If these soils are cultivated, a complete water-disposal system is essential in the control of erosion. Steepness and other physical properties of the soils make terraces difficult to maintain. Thus, stripcropping generally is a more satisfactory management practice than the use of terraces. Most of the acreage is wooded or in pasture. An example of a suitable cropping system is 1 year of corn followed by 2 years or more of Coastal bermudagrass or other similar grass.

CAPABILITY UNIT IVs-1

This unit consists of somewhat excessively drained to excessively drained sandy soils. Slopes range from 0 to 8 percent. These soils are in the Americus and Lakeland series. Typically, they are sandy to a depth of about 47 inches or more. The underlying layers are sand, loamy sand, or sandy loam.

These soils are low in content of organic matter and fertility, and they are strongly acid to very strongly acid. Tilth is good. Water moves through these soils at a moderately rapid or rapid rate. Available water capacity is low in the Americus soil but very low in the Lakeland soil. The root zone is thick.

These soils are suited to corn, peanuts, small grain, sorghum, and truck crops; but they are sandy and droughty. Plants suitable for pasture are bahiagrass and Coastal bermudagrass. Most of the acreage is in natural vegetation or pine trees that have been planted. The natural vegetation is mixed hardwoods and pine trees, scattered scrub oak trees, and hawthorn bushes. These soils generally are well suited to trees.

Erosion is not a severe hazard on these sandy soils. The principal need is frequent applications of large amounts of plant residue which helps to improve water-holding capacity and fertility. An example of a suitable cropping system is 1 to 2 successive years of a suitable row crop followed by a perennial grass for 2 to 4 successive years. Crops respond well to split applications of fertilizer.

CAPABILITY UNIT Vw-1

Only the mapping unit Grady soils is in this capability unit. These soils have slopes of 0 to 2 percent. They are poorly drained and are in ponded depressions on uplands. The surface layer ranges in texture from sandy loam to clay loam, and the subsoil is dominantly clay or sandy clay.

These soils are low in natural fertility and low to moderate in content of organic matter. They are strongly acid or very strongly acid throughout. Water moves through these soils at a slow rate, and available water capacity is medium. Runoff is very slow. The water table is near the surface most of the year, and water stands for long periods.

These soils are not suited to cultivated crops, because they are poorly drained. If drained, they are suited to pasture but are better suited to trees. Such pasture crops as bahiagrass, fescue, and white clover respond fairly well to management. Most of the acreage is in natural vegetation of blackgum, sweetgum, water oaks, a few cypress trees, and other water-tolerant plants.

CAPABILITY UNIT Vw-2

Only one mapping unit, Kinston and Bibb soils, is in this capability unit. These nearly level, poorly drained, bottom-land soils occur together along creeks, branches, and large drainageways. Typically, the surface layer is sandy loam to loam about 6 inches thick. The underlying layers are variable in texture but are mainly sandy loam, loam, and sandy clay loam.

These soils are strongly acid to very strongly acid. They are low to moderate in natural fertility and in content of organic matter. Generally, water moves through the soils at a moderate rate, but the lower part of the substratum is less permeable. Available water capacity is medium.

Because these soils are in low, wet areas that are subject to flooding, they are waterlogged and not suited to cultivated crops. If flooding is controlled and drainage provided, they are well suited to pasture. Clearing, draining, and flood controlling are difficult to accomplish, because the soils are on wet flood plains, and stream channels are clogged. Plants suitable for pasture are dallisgrass, bahiagrass, tall fescue, white clover, and Ladino clover. Practically all of the acreage is in natural vegetation of mostly water oak, gum, yellow-poplar, bay, and sycamore trees. The understory is mostly ferns, briers, lilies, and other water-tolerant plants.

CAPABILITY UNIT Vw-4

Rains sandy loam is the only soil in this unit. It is in slight depressions or in poorly defined drainageways on uplands. Slopes are 0 to 2 percent, and drainage is poor. The surface layer is very friable sandy loam about 8 inches thick, and the subsoil is mainly friable sandy clay loam.

This soil is low in natural fertility and low in content of organic matter. It is strongly acid to very strongly acid throughout. Water moves through this soil at a moderate rate, but the water table is near the surface during periods of heavy rain in winter and spring. Available water capacity is medium. Excess water on this soil is the main concern. Runoff is slow, and water stands on the surface for long periods during wet seasons. The depth to which roots penetrate depends largely upon the depth to the water table.

If adequately drained, this soil is suited to pasture. Coastal bermudagrass, bahiagrass, tall fescue, and white clover are suitable plants for pasture. The soil is suited to pines and selected hardwoods. Most of the acreage is used as woodland that consists chiefly of water-tolerant hardwoods.

CAPABILITY UNIT VIe-1

Greenville sandy clay loam, 8 to 12 percent slopes, severely eroded, is the only soil in this capability unit. It

is well drained. The surface layer is sandy clay loam about 3 or 4 inches thick, and the subsoil is friable to firm sandy clay or clay.

This soil is moderate to low in natural fertility and low in content of organic matter. It is strongly acid. Water moves through the soil at a moderate rate, and available water capacity is medium. The root zone is thick, but tilth is poor. The soil can be worked only within a narrow range of moisture content. If it is plowed when wet, it clods. When the soil drys, the surface hardens and crusts. Runoff is rapid, and the hazard of further erosion is very severe.

This soil is generally unsuited to cultivated crops. It is better suited to pasture or pine trees. Plants suitable for pasture are Coastal bermudagrass, common bermudagrass, Pensacola bahiagrass, ryegrass, crimson clover, sericea lespedeza, and common lespedeza. Pasture plants respond well to applications of fertilizer. Most of the acreage is in pine trees or pasture.

CAPABILITY UNIT VIe-2

This unit consists of well-drained, eroded soils on uplands. The soils are in the Carnegie and Esto series. Slopes range from 5 to 12 percent. Typically, the surface layer is sandy loam and loamy sand about 4 to 7 inches thick. The subsoil is mainly sandy clay loam to sandy clay.

The soils of this unit are low in natural fertility and low in content of organic matter. They are strongly acid throughout. Water moves through the soils at a moderately slow to slow rate. Available water capacity is medium. The clayey part of the subsoil impedes root penetration. Tilth is fair to poor.

The soils in this unit are not suitable for cultivated crops because of their slope, severe hazard of erosion, and clayey subsoil. They are better suited to trees. If grazing is controlled, they are well suited to pasture. Plants suitable for pasture are Pensacola bahiagrass, common bermudagrass, and sericea lespedeza. Most of the acreage is wooded.

CAPABILITY UNIT VIs-1

This unit consists of well-drained to somewhat excessively drained soils that have slopes of 8 to 15 percent. These soils are in the Americus and Lucy series. Typically, they are sandy to a depth of about 23 to 47 inches. The underlying layers are sandy loam or sandy clay loam.

These soils are low in content of organic matter and low in natural fertility. They are strongly acid to very strongly acid throughout. Tilth is good, and the soils can be cultivated throughout a wide range of moisture content. Water moves through the Americus soil at a moderately rapid rate but moves only at a moderate rate in the lower part of the Lucy soil. Available water capacity is low. The root zone is thick.

These soils generally are not suited to cultivated crops, because they are sandy and droughty, and the slopes cause a severe gullying hazard in cultivated fields. If properly managed, these soils are suited to pasture. Bahiagrass and bermudagrass are suitable pasture plants. Most of the acreage is wooded, and the soils are well suited to trees.

CAPABILITY UNIT VIIe-2

This unit consists of well-drained soils that have slopes of 8 to 17 percent. These soils are in the Esto, Henderson, and Vaucluse series. The surface layer ranges from loamy sand to cherty sandy loam about 4 to 8 inches thick. The subsoil ranges from clay or sandy clay to sandy clay loam.

The soils in this unit are moderate to low in natural fertility and low in content of organic matter. They are strongly acid to very strongly acid throughout. Water movement is slow in the Esto and Henderson soils and moderately slow in the Vaucluse soil. Available water capacity is medium in Esto and Henderson soils and medium to low in the Vaucluse soil.

Steep slopes, the very severe hazard of erosion, and the undesirable properties of the subsoil make these soils unsuitable for cultivated crops. They are better suited to trees, and they are well suited to pasture if grazing is controlled. Pensacola bahiagrass, common bermudagrass, and sericea lespedeza are suitable plants for pasture. Most of the acreage in this unit is wooded.

CAPABILITY UNIT VIIe-3

Lakeland sand, 8 to 17 percent slopes, is the only soil in this unit. It is excessively drained and is droughty.

This soil is low in natural fertility and low in content of organic matter. It is strongly acid to very strongly acid. Water moves through the soil at a rapid rate, and available water capacity is very low. The root zone is thick, and tilth is generally good.

Because it is strongly sloping and droughty, this soil is not suited to cultivated crops. Although deep-rooted grasses can be established, the soil is better suited to trees than to pasture. Where the soil is used for pasture, Pensacola bahiagrass generally grows better than other locally adapted pasture plants. Most of the acreage is idle or planted to pine trees. Idle areas eventually revert to the natural vegetation, which is mainly hawthorn, scrub oak, and scattered pine trees.

Runoff is slow, and sheet erosion is not a severe hazard. Gullying, however, is a hazard in bare, unprotected areas, because slopes are steep and the sand is loose. Also, trafficability is poor when the soil is dry and does not have a cover of plants.

Estimated yields

Estimated average yields of the principal crops grown in Schley and Sumter Counties are given in table 2. These are yields that can be expected under a high level of management in areas where the soils have not been irrigated. The estimates are based on records of actual yields on individual farms, on yields obtained in long-term experiments, and on estimates made by agronomists who have had experience with crops and the soils. Losses from flooding, prolonged dry weather, and other adverse weather conditions were not considered in making these estimates.

In addition to the practices suggested in the descriptions of the capability units, the following practices are needed under a high level of management:

1. Preparing an adequate seedbed.
2. Planting or seeding at suitable rates at appropriate time and using suitable methods.
3. Using cropping systems that conserve the soil and choosing crops that leave a large amount of residue.

4. Using high-yielding varieties of plants.
5. Controlling water by use of terraces, contour cultivation, drainage, grassed waterways, or stripcropping.
6. Controlling weeds, insect pests, and plant diseases.
7. Fertilizing and liming as indicated by the results of soil tests.

Special practices (if indicated after onsite soil test results) generally needed to obtain the yields estimated in table 2 are described in the following paragraphs. Fertilizer rates are on a per acre basis.

CORN.—Apply 100 to 160 pounds of nitrogen (N), 50 to 70 pounds of phosphoric acid (P_2O_5), and 75 to 105 pounds of potash (K_2O). Split the nitrogen applications and use lower fertilizer rates on deep sandy soils. Apply 5 pounds of elemental zinc on light sandy soils and soils that have a pH above 6.5 or on basis of a special soil test. Density of the stand should be 13,750 to 15,000 plants per acre.

OATS.—When used for grazing and grain, apply 100 to 140 pounds of nitrogen (N), 50 to 70 pounds of phosphoric acid (P_2O_5), and 75 to 120 pounds of potash (K_2O). Split nitrogen applications (half in fall and half in mid-February).

TABLE 2.—*Estimated yields per acre of the principal crops and pasture under a high level of management*

[Crops were grown without irrigation. Absence of yield indicates that the crop is not suited to the soil or generally is not grown on it]

Soil	Corn	Oats	Cotton (lint)	Soybeans	Peanuts	Coastal bermudagrass for hay	Coastal bermudagrass for pasture	Bahiagrass for pasture
	Bu.	*Bu.*	*Lb.*	*Bu.*	*Lb.*	*Tons*	*Animal-unit months* [1]	*Animal-unit months* [1]
Americus loamy sand, 0 to 5 percent slopes	55	42	360	18	1, 730	3. 6	5. 5	4. 5
Americus loamy sand, 5 to 8 percent slopes	50	38	330	15	1, 675	3. 3	5. 5	4. 5
Americus loamy sand, 8 to 15 percent slopes						3. 0	5. 0	4. 2
Carnegie sandy loam, 2 to 5 percent slopes, eroded	70	55	600	28	2, 100	4. 8	8. 0	6. 0
Carnegie sandy loam, 5 to 8 percent slopes, eroded	65	50	550	22	2, 000	4. 5	6. 5	5. 5
Carnegie sandy loam, 8 to 12 percent slopes, eroded						4. 2	6. 0	5. 0
Esto complex, 5 to 8 percent slopes, eroded							6. 5	5. 2
Esto complex, 8 to 17 percent slopes							5. 5	4. 9
Faceville sandy loam, 0 to 2 percent slopes	92	75	825	38	2, 500	6. 3	10. 5	7. 5
Faceville sandy loam, 2 to 5 percent slopes, eroded	85	70	825	35	2, 400	6. 0	10. 0	7. 5
Faceville sandy loam, 5 to 8 percent slopes, eroded	80	65	725	32	2, 200	5. 7	9. 5	7. 0
Goldsboro loamy sand	85	65		38	2, 800	6. 0	10. 0	7. 5
Grady soils								4. 5
Greenville sandy loam, 0 to 2 percent slopes	88	75	850	38	2, 380	6. 3	10. 5	8. 0
Greenville sandy loam, 2 to 5 percent slopes	80	70	825	35	2, 325	6. 0	10. 0	7. 5
Greenville sandy loam, 5 to 8 percent slopes, eroded	75	65	700	32	2, 100	5. 0	8. 3	6. 8
Greenville sandy clay loam, 5 to 8 percent slopes, severely eroded	55	50	500		1, 650	3. 6	6. 0	5. 2
Greenville sandy clay loam, 8 to 12 percent slopes, severely eroded								5. 0
Henderson cherty sandy loam, 2 to 8 percent slopes	65	55	625	30	1, 700	5. 1	6. 5	5. 5
Henderson cherty sandy loam, 8 to 17 percent slopes						4. 2	6. 0	
Irvington sandy loam	85	70		33	2, 800	5. 4	9. 0	8. 0
Kinston and Bibb soils								
Lakeland sand, 0 to 8 percent slopes	50	30	325		1, 700	2. 9	5. 4	5. 0
Lakeland sand, 8 to 17 percent slopes							4. 5	4. 0
Lucy loamy sand, 0 to 5 percent slopes	63	55	595	20	2, 200	5. 1	8. 5	6. 7
Lucy loamy sand, 5 to 8 percent slopes	55	45	540	17	2, 100	4. 7	7. 8	6. 7
Lucy loamy sand, 8 to 12 percent slopes						4. 4	7. 4	6. 0
Norfolk loamy sand, 0 to 2 percent slopes	85	75	750	38	2, 800	6. 0	10. 0	8. 0
Norfolk loamy sand, 2 to 5 percent slopes	80	72	725	35	2, 700	5. 7	9. 5	7. 0
Ochlockonee soils, local alluvium	90	70	775	38	2, 600	6. 6	11. 0	9. 0
Orangeburg loamy sand, 0 to 2 percent slopes	85	70	750	38	2, 800	6. 0	10. 0	8. 0
Orangeburg loamy sand, 2 to 5 percent slopes	80	65	725	35	2, 700	5. 7	9. 5	7. 5
Orangeburg loamy sand, 5 to 8 percent slopes, eroded	72	60	650	30	2, 650	5. 4	9. 0	7. 0
Orangeburg loamy sand, 8 to 12 percent slopes, eroded						5. 1	8. 5	6. 3
Rains sandy loam								5. 7
Red Bay sandy loam, 0 to 2 percent slopes	85	75	750	38	2, 550	6. 0	10. 0	7. 8
Red Bay sandy loam, 2 to 5 percent slopes	80	70	725	35	2, 400	5. 7	9. 5	7. 5
Red Bay sandy loam, 5 to 8 percent slopes, eroded	72	60	650	30	2, 100	5. 4	9. 0	6. 7
Red Bay sandy loam, 8 to 12 percent slopes, eroded						5. 1	8. 5	6. 3
Tifton sandy loam, 0 to 2 percent slopes	92	80	875	39	2, 800	6. 3	10. 5	7. 8
Tifton sandy loam, 2 to 5 percent slopes, eroded	88	75	825	37	2, 700	6. 0	10. 0	7. 6
Tifton sandy loam, 5 to 8 percent slopes, eroded	80	65	725	32	2, 650	5. 7	9. 5	7. 2
Vaucluse loamy sand, 2 to 5 percent slopes, eroded	55	45	425	23	2, 300	4. 5	7. 5	5. 8
Vaucluse loamy sand, 5 to 8 percent slopes, eroded						4. 2	7. 0	5. 5
Vaucluse loamy sand, 8 to 17 percent slopes, eroded						3. 9	6. 5	5. 0

[1] The term animal-unit-month refers to the number of months during the year that 1 acre will provide grazing for 1 animal unit (one cow, one horse, one mule, five sheep, or five goats), without damage to the pasture.

COTTON.—Apply 60 to 120 pounds of nitrogen (N), 50 to 80 pounds of phosphoric acid (P_2O_5), and 75 to 120 pounds of potash (K_2O). Split the nitrogen applications on deep sandy soil. Apply 0.5 pound of elemental boron and 2.5 pounds of elemental manganese on soils that have a reaction higher than pH 5.6. Fertilizer should contain sufficient sulfur to supply a minimum of 10 pounds of elemental sulfur.

SOYBEANS.—Apply 0 to 20 pounds of nitrogen (N), 20 to 50 pounds of phosphoric acid (P_2O_5), and 40 to 100 pounds of potash (K_2O). Use nitrogen on deep sandy soils or where soybeans are not following a fertilized crop. Inoculate seed and apply 1 ounce of molybdenum salt per bushel of seed as seed treatment. Use lower fertilizer rates when soybeans follow a heavily fertilized crop.

PEANUTS.—Apply 0 to 20 pounds of nitrogen (N), 40 to 50 pounds of phosphoric acid (P_2O_5), and 60 to 75 pounds of potash (K_2O). Apply gypsum as needed. Apply 0.5 pound of elemental boron on deep sandy soils or where hollowheart has been observed.

COASTAL BERMUDAGRASS FOR HAY.—Apply 200 to 400 pounds of nitrogen (N), 50 to 100 pounds of phosphoric acid (P_2O_5), and 100 to 200 pounds of potash (K_2O). Split the nitrogen applications. Apply nitrogen first early in spring and then after each hay cutting.

COASTAL BERMUDAGRASS FOR PASTURE.—Apply 100 to 200 pounds of nitrogen (N), 40 to 60 pounds of phosphoric acid (P_2O_5), and 80 to 120 pounds of potash (K_2O). Adjust amounts of fertilizer to stocking rate.

BAHIAGRASS FOR PASTURE.—Apply 75 to 140 pounds of nitrogen (N), 40 to 70 pounds of phosphoric acid (P_2O_5), and 60 to 90 pounds of potash (K_2O). Adjust amounts of fertilizer to stocking rate.

Use of the Soils as Woodland [3]

Originally, virgin forests covered 97 percent of the area that is now Schley and Sumter Counties. Areas have been cleared, and now only about 50 percent of the survey area is wooded. On the ridges and in other areas occupied by the better drained soils, the main species of trees are red oak, water oak, and shortleaf, longleaf, slash, and loblolly pines (fig. 9). In depressions, swamps, bays, and drainageways, the main kinds of trees are cypress, blackgum, tupelo gum, water and willow oaks, sycamore, red maple, and yellow-poplar.

Woodland suitability groups

The soils of Schley and Sumter Counties have been placed in woodland suitability groups to assist landowners in planning the use of their soils and the management of their woodland. Each group is made up of soils that are about the same in natural drainage, have about the same kind of subsoil, and have other similar soil characteristics that affect the growth of trees. The soils in each group are subject to similar hazards and have similar limitations that affect the planting, tending, and harvesting of trees. All soils in each group, therefore, have about the same potential productivity for trees and need about the same management and conservation practices.

[3] W. P. THOMPSON, woodland conservationist, Soil Conservation Service, helped to prepare this section.

Figure 9.—**A well-managed stand of pine trees growing on Greenville sandy loam, 2 to 5 percent, woodland suitability group 3o1.**

The woodland suitability group, the potential productivity, and the limitations and hazards that affect management of the soils are shown in table 3. Woodland suitability groups are identified by symbols. The significance of each element in a symbol is discussed in the following paragraphs.

The first element of the symbol for a woodland suitability group is an Arabic numeral that indicates the relative productive potential of the soils of a group for growing

wood crops. Numerals of 1 to 4 express site quality based on the site index of one or more important forest trees. The numeral 1 signifies that productivity potential is very high, and the numeral 2 signifies that it is high. The numeral 3 signifies moderately high productivity potential, and 4 that productivity potential is only moderate.

The second element is a lowercase letter that indicates the soil-related or physiographic characteristics that are the main cause of hazards, limitations, or restrictions to woodland use or management. Soils that have few or no limitations to restrict their use are designated by the letter *a*. If wetness is the main limiting factor, the letter *w* is the second element. The letter *c*, used as a second element, indicates that the soils are clayey, and the letter *s* that they are excessively sandy.

The third element is an Arabic numeral that indicates the degree of hazards or limitations and the general suitability of the soils in the group for kinds of trees. The numerals 1, 2, and 3 mean that the soils are suited to needleleaf trees. In addition, the numeral 1 means that the soils have no particular limitations, and the numeral 2 that they have one or more moderate limitations. The numeral 3 signifies that the soils have one or more severe limitations. If the numeral 7, 8, or 9 is used as the third element, it means that the soils are suited to both needleleaf and broadleaf trees. In addition, 7 means that the soils have no limitation; 8, that the soils have one or more moderate limitations; and 9, that the soils have one or more severe limitations.

Much of the data in table 3 were obtained during a cooperative study conducted by the Soil Conservation Service and the Forest Service. Some of the information is also based on measurements made by soil scientists and foresters and on the opinions of experienced managers of woodland. Terms used in table 3 have the following meanings.

Potential productivity is expressed as *site index*, which is the height in feet of the tallest trees in the stand at a stated age. For cottonwood the height is for trees at age 30; for sycamore, for trees at age 35; and for all other species, for trees at age 50. For practical application, site indexes have been rounded off to the nearest five units. Trees for which a site index is shown in table 3 are also the trees that ought to be favored in existing woodland.

TABLE 3.—*Potential productivity, hazards and limitations, and species suitable for planting by woodland suitability groups of soils*

Woodland suitability group and description of soils	Soils in group	Potential productivity		Hazards and limitations that affect management	Species suitable for planting
		Species in existing woodland	Site index		
Group 1o7: Well-drained soils that formed in loamy soil material washed from nearby slopes and accumulated in small streambeds, draws, and depressions.	Ochlockonee: Oi.	Loblolly pine Sweetgum Yellow-poplar Sycamore	100 100 -------- --------	No serious management concerns.	Loblolly pine, yellow-poplar, black walnut, sycamore, cherrybark oak.
Group 2w3: Poorly drained soils that have a loamy subsoil.	Rains: Ros.	Loblolly pine Slash pine	100 100	Equipment limitations and seedling mortality are severe because of wetness.	Loblolly pine, slash pine.
Group 2w8: Moderately well drained soils that have a loamy subsoil.	Goldsboro: Gt.	Loblolly pine Slash pine Sweetgum	100 90 100	Equipment limitations are moderate and seedling mortality is slight to moderate because of wetness.	Loblolly pine, slash pine, sweetgum, sycamore, yellow-poplar.
Group 2w9: Chiefly poorly drained soils that have a loamy or clayey subsoil.	Grady: Grd. Kinston and Bibb: Kib.	Loblolly pine Sweetgum Willow oak	100 100 90	Equipment limitations and seedling mortality are severe because of excess water.	Loblolly pine, sycamore, water oak.
Group 2o1: Well-drained soils that have a loamy subsoil.	Carnegie: CoB2, CoC2, CoD2. Norfolk: NhA, NhB. Orangeburg: OeA, OeB, OeC2, OeD2. Red Bay: RhA, RhB, RhC2, RhD2. Tifton: TuA, TuB2, TuC2.	Slash pine Loblolly pine Longleaf pine	90 90 70	No serious management concerns.	Slash pine, loblolly pine.

TABLE 3.—*Potential productivity, hazards and limitations, and species suitable for planting by woodland suitability groups of soils*—Continued

Woodland suitability group and description of soils	Soils in group	Potential productivity		Hazards and limitations that affect management	Species suitable for planting
		Species in existing woodland	Site index		
Group 2o7: Moderately well drained soils that have a loamy subsoil.	Irvington: Ig.	Loblolly pine Slash pine Sweetgum	90 90 95	No serious management concerns.	Loblolly pine, slash pine, sweetgum.
Group 3c2: Well-drained, severely eroded soils that have a clayey subsoil.	Greenville: GqC3, GqD3.	Loblolly pine Slash pine	85 85	Equipment limitations and seedling mortality are moderate because severe erosion has exposed the clayey subsoil.	Loblolly pine, slash pine.
Group 3s2: Well-drained and somewhat excessively drained soils that have a thick, sandy surface layer over a sandy or loamy subsoil.	Americus: ArB, ArC, ArD. Lucy: LMB, LMC, LMD.	Slash pine Loblolly pine Longleaf pine	85 85 70	Equipment limitations and seedling mortality are moderate because of the sandy texture of the soil.	Loblolly pine, slash pine.
Group 3o1: Well-drained soils that have a clayey or loamy subsoil.	Esto: EvC2, EvE. Faceville: FuA, FuB2, FuC2. Greenville: GoA, GoB, GoC2. Henderson: HdC, HdE. Vaucluse: VeB2, VeC2, VeE2.	Loblolly pine Slash pine	85 85	No serious management concerns.	Loblolly pine, slash pine.
Group 4s2: Excessively drained soils that have a thick, sandy profile that commonly extends to a depth of more than 72 inches.	Lakeland: LpC, LpE.	Slash pine Loblolly pine Longleaf pine	80 75 65	Equipment limitations and seedling mortality are moderate to severe.	Slash pine, loblolly pine, longleaf pine.

The ratings of hazards and limitations that affect management are described in the following paragraphs.

The hazard of erosion for soils where the area is managed according to currently recognized acceptable standards is rated *slight*, *moderate*, or *severe*. A rating of *slight* means that no special techniques in management are required. A rating of *moderate* means that some provision must be made to control accelerated erosion on roads, skid trails, fire lanes, and landings. A rating of *severe* means that special techniques are required to control erosion on roads, skid trails, fire lanes, and landings.

Ratings for equipment limitations apply to mechanical equipment that generally is used in woodlands. The dominant factors that limit the use of equipment are steepness of slope, wetness of the soil, rough terrain, unfavorable texture, and rocks and similar obstacles. A soil rating of *slight* indicates that there are no particular limitations to the use of equipment. A rating of *moderate* indicates that not all types of equipment can be used, that the soils are unstable, or that there are periods not in excess of 3 months when equipment cannot be used because of soil wetness. A rating of *severe* indicates that the use of some kinds of equipment may be limited and special equipment may be needed, that the soil is wet more than 3 months, or that soil texture limits the use of equipment.

Seedling mortality ratings refer to the expected degree of mortality or naturally occurring or planted tree seedlings as influenced by the kinds of soils when plant competition is not a factor. The rating is *slight* where expected seedling survival exceeds 75 percent. Natural regeneration is suitable, or an original planting may be expected to produce a satisfactory stand. The rating is *moderate* where expected seedling survival is 50 to 75 percent. If the rating is moderate, natural regeneration cannot always be relied upon for adequate and immediate restocking, and planting may be a desirable alternative. The rating is *severe* where the expected seedling survival is less than 50 percent, and adequate restocking is not expected unless superior planting techniques, superior planting stock, or other special management is used to assure an adequate stand (fig. 10).

Engineering Uses of the Soils [4]

This subsection is useful to those who need information about soils used as structural material or as foundation upon which structures are built. Among those who can

[4] SHELBY R. LASTINGER, agricultural engineer, Soil Conservation Service, helped to prepare this subsection.

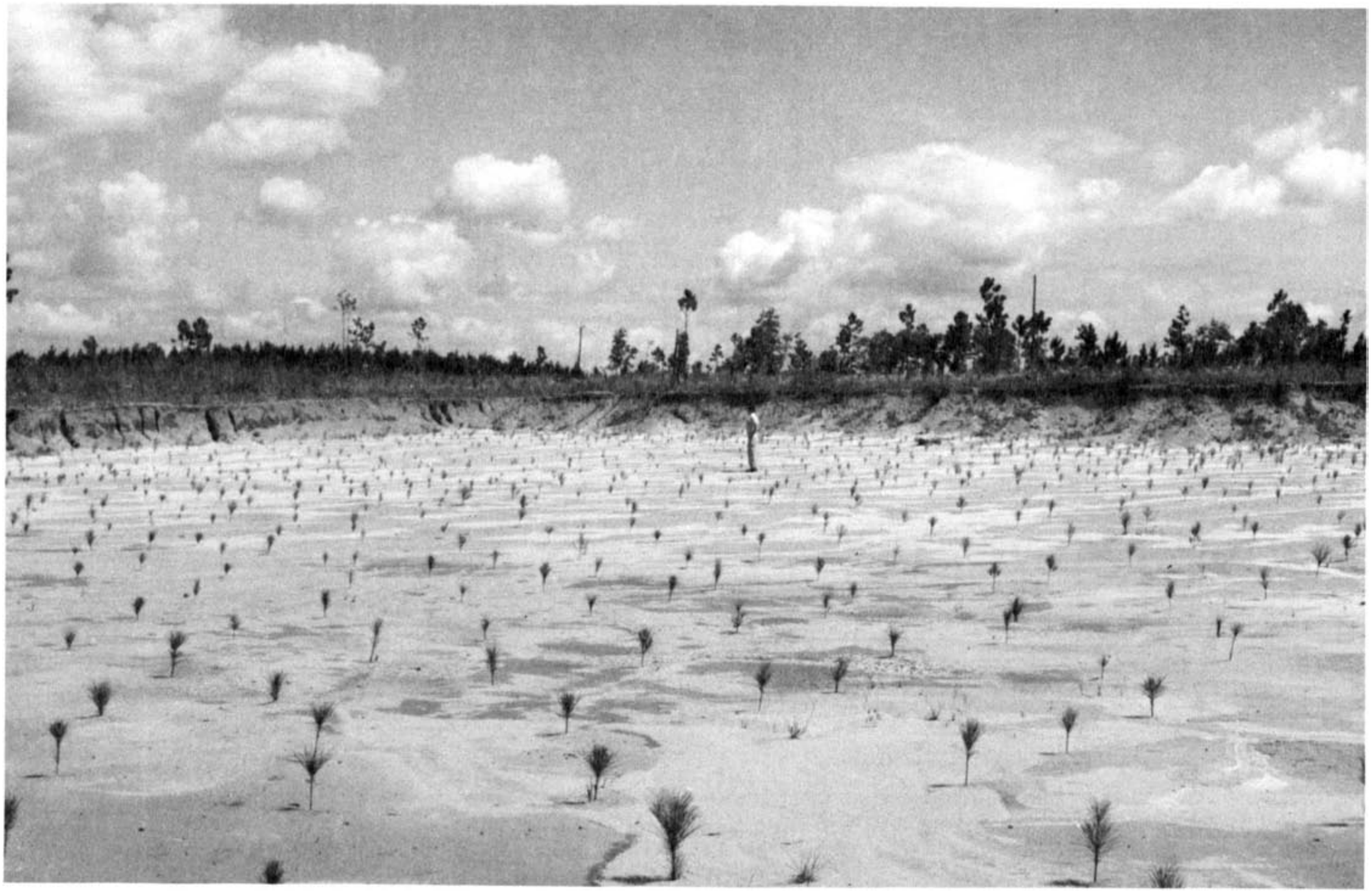

Figure 10.—**Planted pine seedlings in a borrow area. Good survival of planted tree seedlings is difficult to achieve in such areas. These areas are identified on the soil map by a special symbol. They are not placed in a woodland group because of the variability of the properties of the remaining soil material.**

benefit from this section are planning commissions, town and city managers, land developers, engineers, contractors, and farmers.

Among properties of soils highly important in engineering are permeability, strength, compaction characteristics, soil drainage conditions, shrink-swell potential, grain size, plasticity, and soil reaction. Also important are depth to the water table, depth to bedrock, and soil slope. These properties, in various degrees and combinations, affect construction and maintenance of roads, airports, pipelines, foundations for small buildings, irrigation systems, ponds and small dams, and systems for disposal of sewage and refuse.

Information in this subsection of the soil survey can be helpful to those who—

1. Select potential residential, industrial, commercial, and recreational areas.
2. Evaluate alternate routes for roads, highways, pipelines, and underground cables.
3. Seek sources of gravel, sand, or clay.
4. Plan farm drainage systems, irrigation systems, ponds, terraces, and other structures for controlling water and conserving soils.
5. Correlate performance of structures already built with properties of the kinds of soil on which they are built, for the purpose of predicting performance of structures on the same or similar kinds of soil in other locations.
6. Predict the trafficability of soils for cross-country movement of vehicles and construction equipment.
7. Develop preliminary estimates pertinent to construction in a particular area.

Most of the information in this subsection is presented in tables 4, 5, and 6, which show, respectively, the results of engineering laboratory tests on soil samples, several estimated soil properties significant to engineering, and interpretations for various engineering uses.

This information, along with the soil map and other parts of this publication, can be used to make interpretations in addition to those given in tables 5 and 6; and it also can be used to make other useful maps. The information, however, does not eliminate need for further investigations at sites selected for engineering works, especially works that involve heavy loads or that require excavations to depths greater than those shown in the tables. Also, inspection of sites, especially the small ones, is needed because many delineated areas of a given soil mapping unit

may contain small areas of other kinds of soil that have strongly contrasting properties and different suitabilities or limitations for soil engineering.

Some of the terms used in this soil survey have special meanings to soil scientists that are not known to all engineers. The Glossary defines many of these terms commonly used in soil science.

Engineering soil classification systems

The two systems most commonly used in classifying samples of soils for engineering are the Unified system (*11*) used by the SCS engineers, Department of Defense, and others, and the AASHO system (*2*) adopted by the American Association of State Highway Officials.

In the Unified system, soils are classified according to particle-size distribution, plasticity, liquid limit, and organic-matter content. Soils are grouped in 15 classes. There are eight classes of coarse-grained soils, identified as GW, GP, GM, GC, SW, SP, SM, and SC; six classes of fine-grained soils, identified as ML, CL, OL, MH, CH, and OH; and one class of highly organic soils, identified as Pt. Soils on the borderline between two classes are designated by symbols for both classes; for example, ML–CL.

The AASHO system is used to classify soils according to those properties that affect use in highway construction and maintenance. In this system, a soil is placed in one of seven basic groups ranging from A–1 through A–7 on the basis of grain-size distribution, liquid limit, and plasticity index. In group A–1 are gravelly soils of high bearing strength, or the best soils for subgrade (foundation). At the other extreme, in group A–7, are clay soils that have low strength when wet and that are the poorest soils for subgrade. Where laboratory data are available to justify a further breakdown, the A–1, A–2, and A–7 groups are divided as follows: A–1–a, A–1–B, A–2–4, A–2–5, A–2–6, A–2–7, A–7–5, and A–7–6. As additional refinement, the engineering value of a soil material can be indicated by a group index number. Group indexes range from 0 for the best material to 20 or more for the poorest. The AASHO classification for tested soils, with group index numbers in parentheses, is shown in table 4; the estimated classification, without group index numbers, is given in table 5 for all soils mapped in the survey area.

Engineering test data

Table 4 contains engineering test data for some of the major soil series in Schley and Sumter Counties. These tests were made to help evaluate the soils for engineering purposes. The engineering classifications given are based on data obtained by mechanical analyses and by tests to determine liquid limits and plastic limits. The mechanical analyses were made by combined sieve and hydrometer methods.

Moisture-density data are obtained by compacting soil material several times at successively higher moisture content. Assuming that the compactive effort remains constant, the density of the compacted material increases until the optimum moisture content is reached. After that, the density decreases with the increase in moisture content. The highest dry density obtained in the compaction test is termed "maximum dry density." Moisture-density data are important in earthwork, because as a rule optimum stability is obtained if the soil is compacted to about the maximum dry density when it is at approximately the optimum moisture content.

To get the percentages of shrinkage and swelling recorded under "Volume change," samples were prepared at optimum moisture content and then subjected to drying and wetting. Changes in volume were measured. The sum of these two values is the "Total volume change."

The relative proportions of the different size particles in the soil samples were determined through mechanical analysis made by a combination of the sieve and hydrometer methods.

The test that determines the plastic limit and liquid limit measures the effect of water on the consistence of the soil material. As the moisture content of a clayey soil increases from a very dry state, the material changes from a semisolid to a plastic state. As the moisture content is further increased, the material changes from a plastic to a liquid state. The plastic limit is the moisture content at which the soil material changes from a semisolid to a plastic state. The liquid limit is the moisture content at which the material passes from a plastic to a liquid state. The plasticity index is the numerical difference between liquid limit and plastic limit. It indicates the ranges of moisture content within which a soil is in a plastic condition.

Soil properties significant to engineering

Several estimated soil properties significant in engineering are given in table 5. These estimates are made for typical soil profiles, by layers sufficiently different to have different significance for soil engineering. Estimates are based on field observations made in the course of mapping, on test data for these and similar soils, and on experience with the same kinds of soil in other counties. Bedrock in these two counties is at great depths and is not significant to engineering. Explanations of some of the columns in table 5 are given in the following paragraphs.

Depth to the seasonal high water table is the approximate distance from the surface of the soil to the highest level that ground water reaches in the soil in most years.

Soil texture is described in table 5 in the standard terms used by the Department of Agriculture (*8*). These terms take into account relative percentages of sand, silt, and clay in soil material that is less than 2 millimeters in diameter. "Loam," for example, is soil material that contains 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the soil contains gravel or other particles coarser than sand, an appropriate modifier is added, for example, "gravelly loamy sand." "Sand," "silt," "clay," and some of the other terms used in USDA textural classification are defined in the Glossary of this soil survey.

Permeability is the quality of a soil that enables it to transmit water or air. The estimates of permeability are based on soil characteristics observed in the field, particularly structure and texture. The estimates in table 5 do not take into account lateral seepage or such transient soil features as plowpans and surface crusts.

Available water capacity is the ability of soils to hold water for use by most plants. It is commonly defined as the difference between the amount of water in the soil at field capacity and the amount at the wilting point of most crop plants.

TABLE 4.—*Engineering*

[Tests were performed by the State Highway Department of Georgia, in cooperation with the U.S. Department of Commerce, Bureau of Association of State Highway Officials (AASHO) (*2*).

Soil name and location	Report No.	Depth from surface	Moisture density [1]: Minimum dry density	Moisture density [1]: Optimum moisture	Volume change [2]: Shrinkage	Volume change [2]: Swell	Volume change [2]: Total volume change	Fragments larger than 3 inches in diameter (estimated)
		Inches	*Lb./cu. ft.*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Greenville sandy clay loam:								
3.2 miles NW. of junction of Georgia Highways No. 49 and 308 on county road in Sumter County, 0.5 mile W. of Georgia Highway 308. (Modal)	13–1	0–4	114	14	3.9	10.6	14.5	------------
	13–2	4–25	105	19	0	7.5	7.5	------------
	13–3	25–72	109	17	4.2	.8	5.0	------------
County road N. that intersects the road fronting Cedar Springs Church, then 0.4 mile E. on N. side of road in Sumter County. (Less clay than modal in upper part of profile)	14–1	0–3	115	11	1.3	15.4	16.7	------------
	14–2	20–48	109	17	5.6	11.4	17.0	------------
	14–3	48–65	104	19	6.7	11.8	18.5	------------
Henderson cherty sandy loam:								
On W. side of Georgia Highway No. 49 in Sumter County, 0.3 mile S. of junction of Georgia Highways No. 49 and 27. (Modal)	10–1	0–6	107	15	2.2	7.4	9.6	5
	10–2	15–33	90	28	26.5	3.1	29.6	15
	10–3	33–62	85	32	3.6	17.4	21.0	10
On E. side of Georgia Highway No. 49 in Sumter County, 0.25 mile S. of junction of Georgia Highways No. 27 and 49. (Contains more clay than modal profile)	12–1	0–5	116	12	1.5	12.4	13.9	5
	12–2	15–36	98	23	6.5	9.6	16.1	8
	12–3	36–72	94	22	19.2	8.9	28.1	3
0.5 mile W. on Georgia Highway No. 27 from road junction of Georgia Highway 27 on N. side of road in Sumter County. (Less clay than modal in the 7–23 inch layer)	11–1	0–7	117	11	1.0	16.9	17.9	6
	11–2	7–23	112	14	4.9	13.6	18.5	10
	11–3	33–60	91	27	4.1	6.9	11.0	15
Lucy loamy sand:	S65–Ga–123							
Along paved road in the SW. part of Schley County, 0.5 mile S. of Ebenezer Church. (Modal)	4–1	0–9	113	9	0	6.4	6.4	------------
	4–2	23–35	121	8	.5	6.4	6.9	------------
	4.3	35–68	113	14	2.2	8.0	10.2	------------
300 yards SE. from junction of Georgia Highways No. 45 and 153 in the SW. part of Schley County. (Less fine material in lower part of profile than in modal profile)	2–1	0–9	115	8	0	2.5	2.5	------------
	2–2	16–40	124	9	.8	5.9	6.7	------------
	2–3	40–68	118	12	4.2	11.4	15.6	------------

See footnotes at end of table.

test data

Public Roads (BPR). The tests, except those for volume change, were performed in accordance with standard test procedures of the American
Absence of an entry indicates that no determination was made]

Mechanical analysis [3]												Liquid limit	Plasticity index	Classification	
Percentage passing sieve—								Percentage smaller than—						AASHO	Unified
1½ in.	1 in.	¾ in.	⅜ in.	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0. 05 mm.	0. 02 mm.	0.005 mm.	0.002 mm.				
												Percent			
					100	85	42	40	35	28	25	20	9	A-4(1)	SC
				100	99	92	55	53	51	48	48	34	15	A-6(6)	CL
				100	99	90	47	47	46	43	42	30	10	A-4(2)	SC
			100	98	96	76	29	25	20	14	12		[4] NP	A-2-4(0)	SM
					100	81	48	45	42	38	38	34	14	A-6(4)	SC
				100	99	85	57	55	54	48	45	38	15	A-6(6)	ML-CL
[5] 99	93	87	77	72	57	44	18	15	11	5	3		NP	A-1-b(0)	SM
100	93	89	88	87	86	82	70	68	64	58	56	53	26	A-7-6(17)	MH-CH
[5] 99	99	98	97	97	97	85	76	72	68	63	62	56	32	A-7-5(16)	MH
[5] 96	91	86	80	77	70	60	26	21	18	13	10		NP	A-2-4(0)	SM
100	98	97	96	96	94	93	66	61	56	51	51	40	20	A-6(10)	CL
					100	98	82	77	73	67	64	50	32	A-7-6(18)	CL
100	97	96	94	93	90	73	28	23	21	14	10		NP	A-2-4(0)	SM
[5] 98	96	95	93	92	88	78	45	42	40	35	33	30	18	A-6(4)	SC
100	99	99	99	99	99	92	78	77	75	64	61	56	28	A-7-6(18)	MH-CH
					100	70	11	9	6	4	2		NP	A-2-4(0)	SP-SM
			100	99	99	68	18	15	14	10	8		NP	A-2-4(0)	SM
			100	99	96	75	39	35	34	32	30	40	24	A-6(5)	SC
				100	99	49	11	11	8	4	2		NP	A-2-4(0)	SP-SM
				100	99	55	20	18	16	11	9		NP	A-2-4(0)	SM
				100	99	61	33	32	31	28	27	30	17	A-2-6(1)	SC

TABLE 4.—*Engineering*

Soil name and location	Report No.	Depth from surface	Moisture density [1] Minimum dry density	Optimum moisture	Volume change [2] Shrinkage	Swell	Total volume change	Fragments larger than 3 inches in diameter (estimated)
		Inches	*Lb./cu. ft.*	*Percent*	*Percent*	*Percent*	*Percent*	*Percent*
Orangeburg loamy sand:								
0.5 mile E. on Georgia Highway No. 271 from junction of U.S. Highway No. 19; 100 feet N. of road in Schley County. (Modal)	1–1	0–9	121	9	.8	8.0	8.8	------------
	1–2	9–20	116	13	7.0	8.1	15.1	------------
	1–3	30–60	110	16	4.1	11.3	15.4	------------
4 miles W. of Ellaville on Georgia Highway No. 26 and 0.5 mile S. on county road in E. roadbank. (Slightly more clay in the surface layer than modal profile)	3–1	0–5	124	9	1.2	10.4	11.6	------------
	3–2	5–18	114	14	6.3	10.6	16.9	------------
	3–3	35–62	107	16	4.3	14.6	18.9	------------
Tifton sandy loam:	S65–Ga–129							
1.7 miles N. from Sumter and Lee County line on county road that intersects the county line at 84° 04′ longitude. (Modal)	16–1	0–7	118	8	.5	6.3	6.8	------------
	16–2	22–36	116	14	4.5	6.2	10.7	------------
	16–3	42–62	105	19	3.1	8.4	11.5	------------
1.5 miles NW. along county road from first county crossroad SW. of Huntington, Georgia, in Sumter County. (Contains more clay than modal profile)	18–1	0–5	125	11	2.2	8.0	10.2	------------
	18–2	5–38	116	13	5.2	8.4	13.6	------------
	18.3	49–66	95	24	2.6	15.9	18.5	------------
Vaucluse loamy sand:								
1.6 miles SW. of Georgia Highway 26 and 0.8 mile E. from Schley and Marion county line. (Modal)	7–1	0–8	112	9	0	3.8	3.8	------------
	7–2	8–61	120	11	1.0	4.8	5.8	------------
N. tip of Schley County, 0.3 mile E. on county road from Rogers' Mill. (More clay in subsoil than modal profile)	9–1	0–2	116	12	.9	13.7	14.6	------------
	9–2	2–36	112	15	3.1	11.1	14.2	------------
	9–3	36–66	116	13	1.9	8.4	10.3	------------

[1] Based on AASHO Designation T 99–57 (*2*).
[2] Based on "A System of Soil Classification" (*1*).
[3] Mechanical analyses according to AASHO Designation T 88–57 (*2*). Results by this procedure frequently may differ somewhat from results that would have been obtained by the soil survey procedure of the Soil Conservation Service (SCS). In the AASHO procedure, the fine material is analyzed by the hydrometer method and the various grain-size fractions are calculated on the basis of all the material, in-

test data—Continued

Mechanical analysis [3]												Liquid limit	Plasticity index	Classification	
Percentage passing sieve—								Percentage smaller than—						AASHO	Unified
1½ in.	1 in.	¾ in.	⅜ in.	No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	0.05 mm.	0.02 mm.	0.005 mm.	0.002 mm.				
												Percent			
------	------	------	------	------	100	78	24	21	17	11	8	------	NP	A-2-4(0)	SM
------	------	------	------	------	100	82	43	42	40	32	30	------	NP	A-4(2)	SM
------	------	------	------	------	100	84	50	50	47	43	42	39	21	A-6(7)	SC
------	------	------	------	100	99	64	24	23	20	16	15	------	NP	A-2-4(0)	SM
------	------	------	100	99	99	84	44	42	40	34	31	------	NP	A-4(2)	SM
------	------	------	100	99	99	88	50	49	47	42	42	------	NP	A-4(3)	SM
------	------	100	97	90	88	73	19	11	9	8	4	------	NP	A-2-4(0)	SM
------	------	100	97	91	87	77	41	39	38	33	32	32	22	A-6(4)	SC
------	------	------	100	89	81	66	40	38	36	36	36	35	13	A-6(2)	SM-SC
------	------	100	94	79	74	66	27	24	20	16	14	17	6	A-2-4(0)	SM-SC
------	------	100	98	92	86	79	46	43	41	38	35	28	13	A-6(3)	SC
------	------	------	100	99	95	87	61	60	56	49	46	43	18	A-7-6(9)	ML-CL
------	------	------	100	99	94	63	11	9	8	6	5	------	NP	A-2-4(0)	SP-SM
------	------	------	------	100	94	56	20	19	19	16	16	22	6	A-2-4(0)	SM-SC
------	------	------	100	99	98	70	16	12	11	7	5	------	NP	A-2-4(0)	SM
------	------	------	------	100	98	65	36	35	34	32	31	38	17	A-6(2)	SC
------	------	------	------	100	96	57	28	27	27	26	26	38	19	A-2-6(2)	SC

cluding that coarser than 2 millimeters in diameter. In the SCS soil survey procedure, the fine material is analyzed by the pipette method and the material coarser than 2 millimeters in diameter is excluded from calculations of grain-size fractions. The mechanical analyses used in this table are not suitable for use in naming textural classes for soil.

[4] NP=nonplastic.

[5] 100 percent passed the 2-inch sieve.

TABLE 5.—*Estimated soil properties*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. Because these first

Soil series and map symbols	Depth to seasonal high water table	Depth from surface	Classification		
			USDA texture	Unified	AASHO
		Inches			
Americus: ArB, ArC, ArD	Greater than 72 inches	0–47	Loamy sand	SM	A–2
		47–72	Sandy loam	SM	A–2
Bibb. Mapped only in a unit with Kinston soils.	0 to 15 inches for 2 to 6 months each year.	0–3	Loam	SM or ML	A–2, A–4
		3–65	Sandy loam	SM or SC	A–2
Carnegie: CoB2, CoC2, CoD2.	Greater than 72 inches	0–4	Sandy loam	SM	A–2
		4–38	Sandy clay loam	SC or CL	A–4, A–6
		38–60	Sandy clay loam	CL or ML–CL	A–4, A–6, A–7
Esto: EvC2, EvE	60 to 120 inches; perched water table during wet weather.	0–8	Loamy loam	SM	A–2
		8–53	Clay and sandy clay	ML or MH	A–6, A–7
		53–62	Sandy clay	CL	A–6
Faceville: FuA, FuB2, FuC2.	Greater than 72 inches	0–7	Sandy loam	SM	A–2
		7–65	Sandy clay and sandy clay loam.	CL	A–6
Goldsboro: Gt	30 to 60 inches for 1 to 2 months each year.	0–9	Loamy sand	SM	A–2
		9–15	Sandy loam	SM or SC	A–2, A–4
		15–60	Sandy clay loam	SC	A–2, A–6
Grady: Grd	0 to 15 inches for 6 to 12 months each year.	0–6	Loam	ML or CL	A–4, A–6
		6–70	Clay to sandy clay	CL	A–6, A–7
Greenville: GoA, GoB, GoC2, GqC3, GqD3.	Greater than 85 inches	0–7	Sandy loam and sandy clay loam.[1]	SM or SC	A–2, A–4, A–6
		7–82	Sandy clay	SC, CL, or ML–CL	A–4, A–6, A–7
Henderson: HdC, HdE	60 to more than 72 inches for less than 1 month each year.	0–6	Cherty sandy loam	SM	A–2, A–1
		6–62	Clay or sandy clay (cherty)	SC, CL, MH, or MH–CH	A–6, A–7
Irvington: Ig	15 to 30 inches for 1 to 2 months each year.	0–6	Sandy loam	SM	A–2
		6–22	Sandy clay loam	SC	A–2, A–4
		22–60	Sandy clay loam	SC or CL	A–4, A–6
*Kinston: Kib. For Bibb soil in this mapping unit, refer to the Bibb series.	0 to 15 inches for 2 to 6 months each year.	0–6	Loam and sandy loam	SM	A–2, A–4
		6–30	Sandy clay loam	SC or CL	A–4, A–6
		30–60	Loam	ML or SC	A–4

See footnote at end of table.

significant to engineering

soils may have different properties, the reader should follow carefully the instructions for referring to other series that are given in this column]

Percentage passing sieve— No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)	Permeability	Available water capacity	Reaction	Shrink-swell potential
				Inches per hour	*Inches per inch of soil*	*pH*	
100	100	80–90	15–20	6. 3–20. 0	0. 06–0. 08	4. 5–5. 5	Low.
100	100	80–90	20–35	2. 0–6. 3	0. 09–0. 11	4. 5–5. 5	Low.
100	100	60–90	30–55	2. 0–6. 3	0. 11–0. 13	4. 5–5. 5	Low.
100	100	60–80	25–35	0. 63–2. 0	0. 11–0. 13	4. 5–5. 5	Low.
80–95	80–95	55–75	25–35	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
85–95	85–95	75–85	36–60	0. 63–2. 0	0. 12–0. 14	5. 1–5. 5	Moderate.
85–95	85–95	75–85	50–70	0. 06–0. 2	0. 10–0. 12	5. 1–5. 5	Moderate.
100	100	70–90	15–25	2. 0–6. 3	0. 08–0. 10	5. 1–5. 5	Low.
100	100	75–90	60–80	0. 06–0. 2	0. 10–0. 13	5. 1–5. 5	Moderate to high.
100	100	75–90	50–75	0. 06–0. 2	0. 12–0. 14	5. 1–5. 5	Moderate.
96–100	96–100	75–95	25–35	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
100	100	85–98	50–80	0. 63–2. 0	0. 11–0. 13	5. 1–5. 5	Moderate.
100	100	80–90	15–25	2. 0–6. 3	0. 08–0. 10	5. 1–5. 5	Low.
100	100	80–90	25–40	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
100	100	80–95	30–50	0. 63–2. 0	0. 12–0. 14	5. 1–5. 5	Low.
100	100	85–95	50–70	0. 2–0. 63	0. 10–0. 13	4. 5–5. 5	Low.
100	100	65–90	55–80	0. 06–0. 2	0. 10–0. 13	4. 5–5. 5	Moderate.
96–100	95–100	75–90	25–45	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
96–100	95–100	80–95	45–60	0. 63–2. 0	0. 13–0. 15	5. 1–5. 5	Moderate.
70–95	55–90	40–75	15–30	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
85–100	85–100	80–100	45–85	0. 06–0. 2	0. 13–0. 15	5. 1–5. 5	Moderate to high.
80–90	80–90	70–85	25–35	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
85–90	85–90	70–85	25–40	0. 63–2. 0	0. 13–0. 15	5. 1–5. 5	Low.
85–90	85–90	70–95	40–55	0. 06–0. 2	0. 10–0. 12	5. 1–5. 5	Moderate.
100	100	75–90	30–45	2. 0–6. 3	0. 13–0. 15	4. 5–5. 5	Low.
100	100	80–90	36–55	0. 63–2. 0	0. 12–0. 14	4. 5–5. 5	Moderate.
100	100	80–90	45–55	0. 63–2. 0	0. 13–0. 15	4. 5–5. 5	Low.

TABLE 5.—*Estimated soil properties*

Soil series and map symbols	Depth to seasonal high water table	Depth from surface	Classification		
			USDA texture	Unified	AASHO
		Inches			
Lakeland: LpC, LpE	Greater than 80 inches	0–78	Sand	SM or SP–SM	A–2, A–3
Lucy: LMB, LMC, LMD	Greater than 80 inches	0–35	Loamy sand and sandy loam	SM or SP–SM	A–2
		35–68	Sandy clay loam	SM or SC	A–2, A–6
Norfolk: NhA, NhB	Greater than 72 inches	0–9	Loamy sand	SM	A–2
		9–15	Sandy loam	SM or SC	A–2, A–4
		15–62	Sandy clay loam	SC or SM	A–4, A–6
Ochlockonee: Oi	Less than 15 inches for less than a month each year.	0–6	Loam	SM	A–4, A–2
		6–66	Loamy sand to sandy loam	SM	A–2, A–4
Orangeburg: OeA, OeB, OeC2, OeD2.	Greater than 72 inches	0–7	Loamy sand	SM	A–2
		7–12	Sandy loam	SM or SC	A–2, A–4
		12–60	Sandy clay loam and clay loam.	SC, CL or SM	A–4, A–6
Rains: Ros	0 to 15 inches for periods of more than 6 months each year.	0–16	Sandy loam	SM	A–2
		16–60	Sandy clay loam	SC or CL	A–4, A–6
Red Bay: RhA, RhB, RhC2, RhD2.	Greater than 72 inches	0–8	Sandy loam	SM	A–2
		8–77	Sandy clay loam	SC	A–2, A–6
Tifton: TuA, TuB2, TuC2	Greater than 72 inches	0–7	Sandy loam	SM or SM–SC	A–2
		7–36	Sandy clay loam	SC	A–6
		36–62	Sandy clay loam	SC, CL or ML–CL, SM–SC	A–6, A–7
Vaucluse: VeB2, VeC2, VeE2.	Greater than 72 inches	0–5	Loamy sand	SM or SP–SM	A–2
		5–12	Sandy loam	SM	A–2, A–4
		12–18	Sandy clay loam	SM or SC	A–2, A–6
		18–60	Sandy clay loam and sandy loam.	SC or SM	A–2, A–6

[1] The GaC3 and GqD3 mapping units of the Greenville series have a surface layer of sandy clay loam. For those soils the surface layer

significant to engineering—Continued

Percentage passing sieve—				Permeability	Available water capacity	Reaction	Shrink-swell potential
No. 4 (4.7 mm.)	No. 10 (2.0 mm.)	No. 40 (0.42 mm.)	No. 200 (0.074 mm.)				
				Inches per hour	*Inches per inch of soil*	*pH*	
100	100	80–90	5–15	6. 3–20. 0	0. 04–0. 05	4. 5–5. 5	Low.
98–100	98–100	45–70	10–25	6. 3–20. 0	0. 06–0. 08	4. 5–5. 5	Low.
98–100	96–100	60–70	25–40	0. 63–2. 0	0. 12–0. 14	4. 5–5. 5	Low.
97–100	97–100	75–85	15–25	2. 0–6. 3	0. 08–0. 10	5. 1–5. 5	Low.
97–100	97–100	80–95	25–40	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
98–100	98–100	80–90	36–45	0. 63–2. 0	0. 12–0. 14	5. 1–5. 5	Low.
100	100	95–100	30–45	2. 0–6. 3	0. 11–0. 13	5. 1–5. 5	Low.
100	100	95–100	20–40	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
100	100	60–80	15–25	2. 0–6. 3	0. 08–0. 10	5. 1–5. 5	Low.
100	95–100	70–85	25–45	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
100	95–100	75–95	36–55	0. 63–2. 0	0. 12–0. 14	5. 1–5. 5	Low to moderate.
100	100	75–100	25–35	2. 0–6. 3	0. 10–0. 12	4. 5–5. 5	Low.
100	100	75–95	36–55	0. 63–2. 0	0. 12–0. 14	4. 5–5. 5	Low to moderate.
100	100	55–70	20–35	2. 0–6. 3	0. 09–0. 11	5. 1–5. 5	Low.
100	100	75–90	30–40	0. 63–2. 0	0. 12–0. 14	5. 1–5. 5	Low.
75–90	70–90	55–75	18–30	2. 0–6. 3	0. 10–0. 12	5. 1–5. 5	Low.
85–96	80–95	75–80	36–50	0. 63–2. 0	0. 12–0. 14	5. 1–5. 5	Moderate.
90–100	80–100	65–96	40–65	0. 63–2. 0	0. 10–0. 12	5. 1–5. 5	Moderate.
96–100	90–100	60–70	10–30	2. 0–6. 3	0. 07–0. 09	4. 5–5. 0	Low.
98–100	95–100	55–65	20–40	2. 0–6. 3	0. 10–0. 12	4. 5–5. 0	Low.
98–100	95–100	55–65	20–45	0. 63–2. 0	0. 10–0. 12	4. 5–5. 0	Low to moderate.
98–100	95–100	55–70	20–45	0. 2–0. 63	0. 08–0. 10	4. 5–5. 0	Low.

has a Unified classification of SC and an AASHO classification of A–4, A–6.

TABLE 6.—*Interpretations of engineering*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. Because in this

Soil series and map symbols	Suitability as source of—		Soil features affecting—	
			Farm ponds	
	Materials for road subgrade	Topsoil	Reservoir areas	Embankments
Americus: ArB, ArC, ArD.	Good	Poor: droughty; fairly low productivity.	Rapid permeability; rapid seepage.	Moderately pervious
Bibb. Mapped only in a unit with Kinston soils.	Poor: seasonal high water table.	Poor: seasonal high water table.	Seasonal high water table.	Fair strength and stability.
Carnegie: CoB2, CoC2, CoD2.	Fair to poor: too much clay and silt in subsoil.	Fair: plinthite in subsoil.	Features generally favorable.	Features generally favorable.
Esto: EvC2, EvE	Poor: too much clay in subsoil.	Poor: too much clay in subsoil.	Features generally favorable.	Fair strength and stability.
Faceville: FuA, FuB2, FuC2.	Fair: too much clay in subsoil.	Fair: slightly too much clay in subsoil.	Moderate permeability in subsoil.	Features generally favorable.
Goldsboro: Gt	Good to fair: too much clay in some places.	Good	Moderate permeability in subsoil.	Features generally favorable.
Grady: Grd	Poor: seasonal high water table; subject to flooding.	Poor: seasonal high water table.	Features generally favorable.	Fair to poor strength and stability; moderate shrink-swell potential.
Greenville: GoA, GoB, GoC2, GqC3, GqD3.	Fair: too much clay in subsoil.	Fair: too much clay in subsoil.	Moderate permeability in subsoil.	Moderate shrink-swell potential.
Henderson: HdC, HdE	Poor: too much clay in subsoil; coarse fragments.	Poor: clayey subsoil; many fragments of rock.	Features generally favorable.	Fair to poor strength and stability; many rock fragments.
Irvington: Ig	Fair: too much clay in lower part of subsoil.	Fair: slightly too much clay in lower part of subsoil.	Slow permeability in subsoil.	Features generally favorable.
*Kinston: Kib. For Bibb soil in this mapping unit, refer to the Bibb series.	Poor: seasonal high water table; subject to flooding.	Poor: seasonal high water table; subject to flooding.	Seasonal high water table; subject to flooding.	Moderate strength and stability.
Lakeland: LpC, LpE	Good where confined	Poor: droughty; low productivity.	Rapid permeability	Sandy material; moderately pervious.
Lucy: LMB, LMC, LMD.	Good	Poor: sandy in upper part of profile.	Moderate permeability in subsoil.	Sandy material in upper 3 feet; moderately pervious.
Norfolk: NhA, NhB	Good	Good	Moderate permeability in subsoil.	Features generally favorable.
Ochlockonee: Oi	Fair to good	Good	Moderately rapid permeability.	Good strength and stability.
Orangeburg: OeA, OeB, OeC2, OeD2.	Good	Good	Moderate permeability in subsoil.	Features generally favorable.

properties of the soils

these soils may have different interpretations, the reader should follow carefully the instructions for referring to other series that are given first column]

Soil features affecting—Continued			
Agricultural drainage	Sprinkler irrigation	Terraces and diversions	Waterways
Somewhat excessively drained	Low available water capacity	Gullying on slopes greater than about 8 percent.	Gullying on slopes greater than about 8 percent; sandy to a depth of about 4 feet.
Subject to flooding; seasonal high water table; no outlets.	Seasonal high water table; subject to flooding.	Nearly level; seasonal high water table; subject to flooding.	Nearly level; seasonal high water table.
Well drained	Excessive runoff from slopes greater than 5 percent.	Some slopes greater than 10 percent; other features favorable.	Slopes greater than about 10 percent are highly erodible.
Well drained	Slopes	Some slopes greater than 10 percent; clayey subsoil.	Clayey subsoil; slopes greater than about 10 percent are highly erodible.
Well drained	Features generally favorable	Features generally favorable	Features generally favorable.
Seasonal high water table; scarcity of outlets.	Features generally favorable	Nearly level	Nearly level; features generally favorable.
Slow permeability; few adequate outlets.	Slow intake rate; seasonal high water table; subject to flooding.	Nearly level	Nearly level; subject to flooding; seasonal high water table.
Well drained	Excessive runoff on units GqC3, GqD3.	Some slopes greater than 10 percent; other features favorable.	Slopes greater than about 10 percent are highly erodible; other features favorable.
Well drained	Slopes; slow permeability	Rocky; some slopes greater than 10 percent.	Rocky; high erodibility on slopes greater than about 10 percent.
Seasonal high water table; scarcity of outlets.	Features generally favorable	Nearly level	Not needed, nearly level.
Subject to flooding; seasonal high water table; no outlets.	Seasonal high water table; subject to flooding.	Nearly level	Nearly level; seasonal high water table.
Excessively drained	Very low available water capacity; low productivity.	Gullying hazard where slopes are greater than about 8 percent.	Gullying hazard on slopes greater than about 8 percent; very slow available water capacity.
Well drained	Low available water capacity	Gullying hazard where slopes are greater than about 8 percent.	Gullying hazard on slopes greater than about 8 percent.
Well drained	Features generally favorable	Features generally favorable	Features generally favorable.
Protection from flooding needed; outlets are scarce.	Features generally favorable	Nearly level	Nearly level; features generally favorable.
Well drained	Excessive runoff on slopes greater than about 8 percent.	Some slopes greater than 10 percent; other features favorable.	Slopes greater than about 10 percent are highly erodible; other features favorable.

TABLE 6.—*Interpretations of engineering*

Soil series and map symbols	Suitability as source of—		Soil features affecting—	
			Farm ponds	
	Materials for road subgrade	Topsoil	Reservoir areas	Embankments
Rains: Ros	Fair: too much clay and silt in subsoil.	Poor: seasonal high water table.	Moderate permeability in subsoil.	Fair to good strength and stability.
Red Bay: RhA, RhB, RhC2, RhD2.	Good	Good	Moderate permeability in subsoil.	Features generally favorable.
Tifton: TuA, TuB2, TuC2.	Good in upper 3 feet of profile.	Good in upper 3 feet of profile.	Moderate permeability in subsoil.	Features generally favorable.
Vaucluse: VeB2, VeC2, VeE2.	Good	Fair: about 1 foot of friable material above fragipan.	Moderately slow permeability in subsoil.	Features generally favorable.

Reaction is the degree of acidity or alkalinity of a soil expressed in pH values. The pH value and terms used to describe soil reaction are explained in the Glossary.

Shrink-swell potential is the relative amount a soil will expand when wet or contract when dry. The extent of shrinking and swelling is influenced by the amount and kind of clay in the soil. Shrinking and swelling of soils causes much damage to building foundations, roads, and other structures. A *high* shrink-swell potential indicates a hazard to maintenance of structures built in, on, or with material having this rating.

Engineering interpretations

Table 6 lists, for each soils series in the survey area, suitability ratings for specific purposes and the soil features that significantly affect highway construction and soil and water conservation engineering. These features generally are apparent only after a field investigation.

Soil material suitable for road subgrade contains enough clay for easy compaction but not enough to impart a high shrink-swell potential. This material should have good natural drainage and be free from seepage. Soil material that is high in content of clay, organic matter, or loose sand is not suitable subgrade material.

Topsoil is used for topdressing an area where vegetation is to be established and maintained. The suitability of a soil as topsoil is determined mainly by its natural fertility and the ease with which it can be worked or spread, as in preparing a seedbed. Other desirable properties for topsoil are that it responds well to applications of fertilizer, is free of toxic elements, and is free of stone fragments. The effect on the area from which the topsoil is removed is also considered in the ratings.

Pond reservoir areas hold water behind a dam or embankment. Soils suitable for pond reservoir areas have low seepage, which is related to their permeability and depth to fractured or permeable bedrock or other permeable material.

Embankments require a stable soil material that resists seepage and piping and has low shrink-swell potential and favorable shear strength and compactibility properties. Stone fragments or organic material in a soil are not desirable. If core walls are used, stability is important. The core should be constructed of soil material that has moderate to slow permeability and good compaction characteristics.

Agricultural drainage is affected mainly by lack of suitable outlets. Other significant features are a seasonal high water table, slow permeability, and flooding.

Features of soils that affect their suitability for sprinkler irrigation are low available water capacity, slow infiltration, and moderately slow or slow permeability. Because of the kinds of crops grown, sprinkler irrigation is not widely used in Schley and Sumter Counties.

Some features that affect the construction of terraces, diversions, and waterways are the thickness of the surface layer, shallowness of the root zone, steep slopes, and erodibility. Other features are slow infiltration, slow permeability, and poor workability of plastic soils when wet.

Use of the Soils for Town and Country Planning

This subsection is chiefly for planners, developers, landscape architects, builders, zoning officials, realtors, landowners, and others interested in use of the soils in Schley and Sumter Counties for town and country planning.

In selecting a site for a home, a highway, or an industry, or for recreational use or other nonfarm purposes, the suitability of the soils for the intended use must be determined. Some of the properties that affect or limit the use of the soils in Schley and Sumter Counties for nonfarm purposes are soil texture, reaction, and depth; shrink-swell potential; steepness of slopes; permeability; depth to the water table; and the hazard of flooding. In table 7, the soils are rated according to degree and kind of limitations that affect their suitability for residential, industrial, and recreational uses.

The limitation ratings used are *slight*, *moderate*, and *severe;* and they apply to undisturbed soil material. A rat-

properties of the soils—Continued

Soil features affecting—Continued			
Agricultural drainage	Sprinkler irrigation	Terraces and diversions	Waterways
Scarcity of outlets; seasonal high water table.	Seasonal high water table	Nearly level	Nearly level; seasonal high water table.
Well drained	Excessive runoff on slopes greater than about 8 percent.	Some slopes greater than 10 percent; other features favorable.	Slopes greater than about 10 percent are highly erodible; other features favorable.
Well drained	Features generally favorable	Features generally favorable	Features generally favorable.
Well drained	Moderately slow permeability; slopes.	Dense layer in subsoil; some slopes greater than 10 percent.	Slopes greater than about 10 percent are highly erodible; dense layer in subsoil.

ing of *slight* means that the soil properties are favorable for the stated use. Limitations are so minor that they can be easily overcome. A rating of *moderate* means that the limitation can be overcome or modified by planning, design, or special maintenance. A rating of *severe* means that the soils have one or more properties unfavorable for the stated use. Limitations are difficult and costly to modify or to overcome; and major soil reclamation, special design, intense maintenance, or a combination of these is required.

Where the degree of limitation shown in table 7 is either moderate or severe, the main soil feature or features causing the limitation are shown.

In the paragraphs that follow, each stated use of the soil for town and country planning is defined and the soil properties that affect such uses are mentioned. This information, together with the limitation ratings in table 7, can be used as a guide in planning the use of the soils in town and country development. Each site intended for development should be investigated before construction is started.

Building sites for dwellings.—The "dwellings" referred to are no more than three stories high. The soil properties most important are the ability to support loads and to resist settlement under a load, shrink-swell potential, depth to seasonally high water table, flooding, and slope (fig. 11). Facilities for disposing of sewage were not considered in rating the soil limitations for dwellings.

Building sites for light industries.—These structures are stores, offices, and small industries that are not more than three stories high. The soil properties important in rating the soils for this use are slope, depth to the water table, frequency and duration of flooding, and shrink-swell potential. Facilities for disposing of sewage were not considered in rating the soil limitations.

Septic tank filter fields (*12*).—These are subsurface systems of tile or perforated pipe that distribute effluent from a septic tank into natural soil. The soil material between depths of 18 inches and 6 feet is evaluated. The soil properties considered are those that affect the absorption of effluent and those that affect construction and operation of the system. Properties that affect absorption are permeability, depth to water table or rock, susceptibility to flooding, and shrink-swell potential. Slope affects the difficulty of layout and construction of the system, the risk of soil erosion, lateral seepage, and downslope flow of effluent. Large rocks or boulders on or in the soil increase construction costs.

Sewage lagoons (*3*).—These are shallow ponds constructed to hold sewage within a depth of 2 to 5 feet long enough for bacteria to decompose the solids. A lagoon has a nearly level floor and has sides, or embankments, of compacted soil material. The assumption is made that the embankment is compacted to medium density and the pond is protected from flooding. Soil properties considered are those that affect the pond floor and the embankment. Those that effect the pond floor are permeability, content of organic matter, and slope. If the floor needs to be leveled, depth to bedrock becomes important. The soil properties that affect the embankment are the engineering properties of the embankment material as interpreted in the Unified Soil Classification System and the amounts of stones, if any, that influence the ease of excavation and compaction of the embankment material.

Sanitary landfill.—This landfill is refuse that has been disposed of by burying it in the soil. The waste is spread in thin layers, compacted, and covered with soil throughout the disposal periods. Landfill areas are subject to heavy vehicular traffic. Some soil properties that affect suitability for landfill are ease of excavation, hazard of polluting ground water, and trafficability. The soils most suitable for this use have moderately slow permeability and can withstand heavy traffic. They are friable and easy to excavate. Unless otherwise stated, the ratings in table 7 apply only to a depth of about 6 feet. For this reason, limitation ratings of *slight* or *moderate* may not be valid if trenches or pits are much deeper than 6 feet. Reliable predictions can be made to a depth of 10 or 15 feet for some soils, but every site should be investigated before it is selected.

TABLE 7.—*Degree and kind of soil limitations for*

[An asterisk in the first column indicates that at least one mapping unit in this series is made up of two or more kinds of soil. Because this first

Soil series and map symbols	Building sites for—		Sewage disposal	
	Dwellings	Light industries	Septic tank filter fields	Sewage lagoons
Americus:				
ArB	Slight	Slight	Slight	Severe: moderately rapid permeability.
ArC	Slight	Moderate: slopes	Slight	Severe: moderately rapid permeability.
ArD	Moderate: slopes	Severe: slopes	Slight	Severe: moderately rapid permeability; slopes.
Bibb. Mapped only with Kinston soils.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.
Carnegie:				
CoB2	Slight	Moderate: moderate shrink-swell potential.	Severe: slow permeability.	Moderate: slopes
CoC2	Slight	Moderate: slopes; moderate shrink-swell potential.	Severe: slow permeability.	Moderate: slopes
CoD2	Moderate: slopes	Severe: slopes	Severe: slow permeability.	Severe: slopes
Esto:				
EvC2	Moderate: moderate to high shrink-swell potential.	Severe: slopes	Severe: slow permeability.	Moderate: slopes
EvE	Moderate: moderate to high shrink-swell potential; slopes.	Severe: slopes	Severe: slow permeability.	Severe: slopes
Faceville:				
FuA	Slight	Slight	Slight	Moderate: moderate permeability.
FuB2	Slight	Slight	Slight	Moderate: moderate permeability; slopes.
FuC2	Slight	Moderate: slopes	Slight	Moderate: moderate permeability; slopes.
Goldsboro: Gt	Slight	Moderate: seasonal high water table.	Moderate: seasonal high water table.	Moderate: moderate permeability.

See footnote at end of table.

stated uses in town and country planning

these soils may have different limitations, the reader should follow carefully the instructions for referring to other series that are given in column]

Sanitary landfills	Local roads and streets	Recreational facilities			
		Picnic areas	Campsites	Intensive play areas	Golf fairways
Severe: moderately rapid permeability.	Slight	Moderate: loamy sand surface layer.	Moderate: loamy sand surface layer.	Moderate: slopes; loamy sand surface layer.	Moderate: loamy sand surface layer.
Severe: moderately rapid permeability.	Slight	Moderate: loamy sand surface layer.	Moderate: slopes; loamy sand surface layer.	Severe: slopes	Moderate: loamy sand surface layer.
Severe: moderately rapid permeability.	Slight	Moderate: loamy sand surface layer; slopes.	Moderate: slopes; loamy sand surface layer.	Severe: slopes	Moderate to severe: slopes.
Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Moderate: slow permeability.	Moderate: slopes	Slight.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Moderate: slopes	Severe: slopes	Moderate: moderate productivity.
Slight	Moderate: fair traffic-supporting capacity.	Moderate: slopes	Moderate: slopes	Severe: slopes	Severe: slopes.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Moderate: slow permeability.	Moderate: slopes	Moderate: slopes.
Moderate: slopes	Moderate: fair traffic-supporting capacity.	Moderate: slopes	Moderate: slow permeability.	Severe: slopes	Severe: slopes.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Slight	Slight	Slight.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Slight	Moderate: slopes	Slight.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Slight	Severe: slopes	Slight to moderate: slopes.
Moderate: seasonal high water table.	Slight	Slight	Slight to moderate: seasonal high water table.	Moderate: seasonal high water table.	Moderate: seasonal high water table.

TABLE 7.—*Degree and kind of soil limitations for*

Soil series and map symbols	Building sites for—		Sewage disposal	
	Dwellings	Light industries	Septic tank filter fields	Sewage lagoons
Grady: Grd	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness
Greenville:				
GoA	Moderate: moderate shrink-swell potential.	Moderate: moderate shrink-swell potential.	Slight	Moderate: moderate permeability.
GoB	Moderate: moderate shrink-swell potential.	Moderate: moderate shrink-swell potential.	Slight	Moderate: slopes; moderate permeability.
GoC2	Moderate: moderate shrink-swell potential.	Moderate: slopes	Slight	Moderate: slopes; moderate permeability.
GqC3	Moderate: moderate shrink-swell potential.	Moderate: slopes	Slight	Moderate: moderate permeability; slopes.
GqD3	Moderate: slopes	Severe: slopes	Moderate: slopes	Severe: slopes
Henderson:				
HdC	Moderate: moderate to high shrink-swell potential.	Severe: slopes	Severe: slow permeability.	Moderate: slopes
HdE	Moderate to severe: slopes.	Severe: slopes	Severe: slow permeability.	Severe: slopes
Irvington: Ig	Moderate: seasonal high water table; ponding.	Moderate: seasonal high water table; ponding.	Severe: seasonal high water table; slow permeability.	Slight
*Kinston: Kib. For Bibb soil in this mapping unit, refer to the Bibb series.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.
Lakeland:				
LpC	Slight	Moderate: slopes	Slight [1]	Severe: rapid permeability.
LpE	Moderate: slopes	Severe: slopes	Moderate: slopes [1]	Severe: rapid permeability; slopes.
Lucy:				
LMB	Slight	Slight	Slight	Moderate: moderate permeability.
LMC	Slight	Moderate: slopes	Slight	Moderate: moderate permeability.
LMD	Slight	Severe: slopes	Slight	Severe: slopes

See footnote at end of table.

stated uses in town and country planning—Continued

Sanitary land fills	Local roads and streets	Recreational facilities			
		Picnic areas	Campsites	Intensive play areas	Golf fairways
Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness	Severe: wetness.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Slight	Slight	Slight.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Slight	Slight	Slight.
Slight	Moderate: fair traffic-supporting capacity.	Slight	Slight	Severe: slopes	Slight to moderate: slopes.
Slight	Moderate: fair traffic-supporting capacity.	Moderate: sandy clay loam surface layer.	Moderate: sandy clay loam surface layer.	Severe: slopes	Moderate: sandy clay loam surface layer.
Slight	Moderate: fair traffic-supporting capacity.	Moderate: slopes	Moderate: slopes	Severe: slopes	Severe: slopes; sandy clay loam surface layer.
Moderate: clayey subsoil; coarse fragments.	Moderate: fair traffic-supporting capacity; coarse fragments.	Moderate: coarse fragments on surface.	Moderate: coarse fragments on surface.	Severe: slopes	Severe: coarse fragments on surface.
Moderate: clayey subsoil; coarse fragments.	Moderate: fair traffic-supporting capacity; coarse fragments.	Moderate: slopes; coarse fragments.	Moderate: slopes; coarse fragments.	Severe: slopes	Severe: slopes; coarse fragments.
Moderate: ponding; seasonal high water table.	Moderate: fair traffic-supporting capacity; seasonal high water table.	Moderate: ponding; seasonal high water table.	Moderate: slow permeability.	Moderate: seasonal high water table.	Moderate: seasonal high water table.
Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.
Severe: rapid permeability.	Moderate: fair traffic-supporting capacity; slopes.	Severe: sandy surface layer.	Severe: sandy surface layer.	Severe: sandy surface layer.	Moderate to severe: droughty; sandy surface layer.
Severe: rapid permeability.	Moderate: fair traffic-supporting capacity; slopes.	Severe: slopes; sandy surface layer.	Severe: sandy surface layer.	Severe: sandy surface layer.	Severe: sandy surface layer.
Slight	Slight	Moderate: thick loamy sand surface layer.	Moderate: thick loamy sand surface layer.	Moderate: thick loamy sand surface layer.	Slight to moderate: droughty.
Slight	Slight	Moderate: thick loamy sand surface layer.	Moderate: thick loamy sand surface layer.	Severe: slopes	Moderate: slopes; droughty.
Slight	Moderate: slopes	Moderate: thick sandy surface layer; slopes.	Moderate: slopes	Severe: slopes	Severe: slopes; droughty.

TABLE 7.—*Degree and kind of soil limitations for*

Soil series and map symbols	Building sites for—		Sewage disposal	
	Dwellings	Light industries	Septic tank filter fields	Sewage lagoons
Norfolk:				
NhA	Slight	Slight	Slight	Moderate: moderate permeability.
NhB	Slight	Slight	Slight	Moderate: moderate permeability; slopes.
Ochlockonee: Oi	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.
Orangeburg:				
OeA	Slight	Slight	Slight	Moderate: moderate permeability.
OeB	Slight	Slight	Slight	Moderate: moderate permeability; slopes.
OeC2	Slight	Moderate: slopes	Slight	Moderate: moderate permeability; slopes.
OeD2	Moderate: slopes	Moderate: slopes	Moderate: slopes	Severe: slopes
Rains: Ros	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.
Red Bay:				
RhA	Slight	Slight	Slight	Moderate: moderate permeability.
RhB	Slight	Slight	Slight	Moderate: moderate permeability; slopes.
RhC2	Slight	Moderate: slopes	Slight	Moderate: moderate permeability; slopes.
RhD2	Moderate: slopes	Moderate: slopes	Moderate: slopes	Severe: slopes
Tifton:				
TuA	Slight	Slight	Moderate: percolation rate is moderate.	Moderate: moderate permeability.
TuB2	Slight	Slight	Moderate: percolation rate is moderate.	Moderate: slopes; moderate permeability.
TuC2	Slight	Moderate: slopes	Moderate: percolation rate is moderate.	Moderate: slopes; moderate permeability.
Vaucluse:				
VeB2	Slight	Slight	Severe: moderately slow permeability.	Moderate: slopes; moderately slow permeability.
VeC2	Slight	Moderate: slopes	Severe: moderately slow permeability.	Severe: slopes
VeE2	Moderate: slopes	Severe: slopes	Severe: moderately slow permeability.	Severe: slopes

[1] Pollution of underground water is a hazard where septic tank filter fields are in deep, sandy soil.

stated uses in town and country planning—Continued

Sanitary land fills	Local roads and streets	Recreational facilities			
		Picnic areas	Campsites	Intensive play areas	Golf fairways
Slight	Slight	Slight	Slight	Slight	Slight.
Slight	Slight	Slight	Slight	Moderate: slopes	Slight.
Severe: subject to flooding.	Moderate to severe: subject to flooding.	Moderate: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Moderate to severe: subject to flooding.
Slight	Slight	Slight	Slight	Slight	Slight.
Slight	Slight	Slight	Slight	Moderate: slopes	Slight.
Slight	Slight	Slight	Slight	Severe: slopes	Slight.
Slight	Slight	Moderate: slopes	Moderate: slopes	Severe: slopes	Moderate to severe: slopes.
Severe: subject to flooding.	Severe: flooding	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.	Severe: subject to flooding.
Slight	Slight	Slight	Slight	Slight	Slight.
Slight	Slight	Slight	Slight	Moderate: slopes	Slight.
Slight	Slight	Slight	Slight	Severe: slopes	Slight.
Slight	Slight	Moderate: slopes	Moderate: slopes	Severe: slopes	Moderate to severe: slopes.
Slight	Slight to moderate: fair to good traffic-supporting capacity.	Slight	Slight	Slight	Slight.
Slight	Slight to moderate: fair to good traffic-supporting capacity.	Slight	Slight	Moderate: slopes	Slight.
Slight	Slight to moderate: fair to good traffic-supporting capacity.	Slight	Slight	Severe: slopes	Slight.
Slight	Slight	Slight	Moderate: moderately slow permeability.	Moderate: slopes	Slight to moderate: moderate productivity.
Slight	Slight	Slight	Moderate: moderately slow permeability.	Severe: slopes	Moderate: moderate productivity.
Slight	Moderate: slopes	Slight	Moderate: slopes; moderately slow permeability.	Severe: slopes	Severe: slopes.

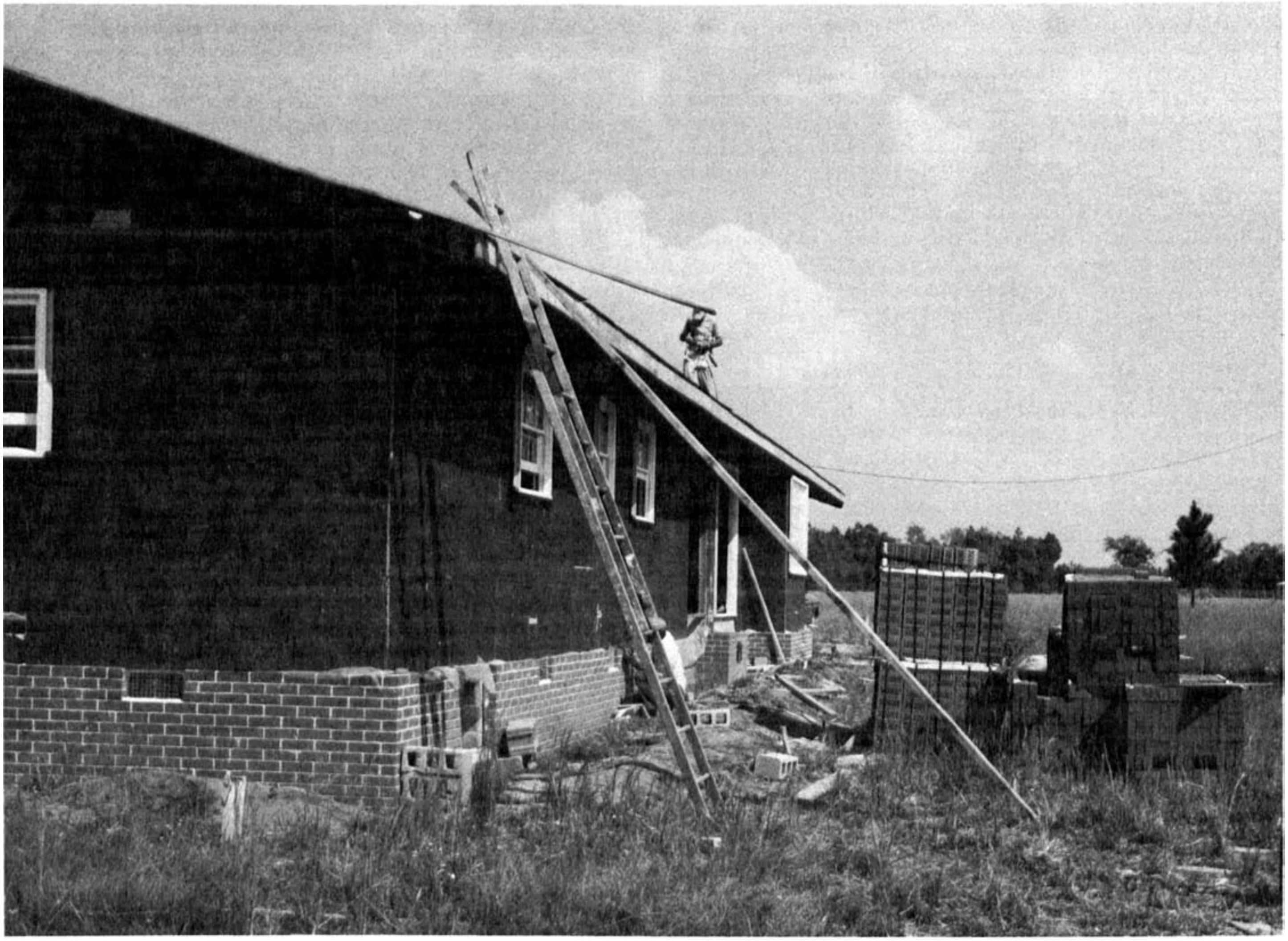

Figure 11.—House under construction on Greenville sandy loam, 0 to 2 percent slopes. This soil has only slight limitations to use as a site for dwellings.

Local roads and streets.—These are low-cost trafficways that require limited cut and fill and limited preparation of the subgrade. The soil properties considered most important for trafficways are slope, depth to the water table, susceptibility to flooding, erodibility, and traffic-supporting capacity. Traffic-supporting capacity refers to the ability of an undisturbed soil to support a moving load.

Among the recreational facilities (*13*) considered in town and country planning are picnic areas, campsites, intensive play areas, and golf fairways. These are described in the following paragraphs.

Picnic areas.—These are attractive natural or landscaped tracts used primarily for preparing meals and eating outdoors. Tables and fireplaces are generally furnished. These areas are subject to heavy foot traffic. Most of the vehicular traffic, however, is confined to access roads. The best soils are firm when wet but not dusty when dry. They are free of flooding during the season of use, and they do not have slopes or stoniness that greatly increase the cost of leveling sites or of building access roads.

Campsites.—These are used intensively for tents and small camp trailers and the accompanying activities of outdoor living. Little preparation of the site is required, other than shaping and leveling for tent and parking areas. Campsites are subject to heavy foot traffic and limited vehicular traffic. The best soils have mild slopes, good drainage, a surface free of rocks and coarse fragments, freedom from flooding during periods of heavy use, and a surface that is firm after rain but not dusty when dry.

Intensive play areas.—These are playgrounds used intensively for baseball, football, badminton, and other or-

ganized games. Soils suitable for these uses must be able to withstand intensive foot traffic. The most suitable soils have a nearly level surface that is free of coarse fragments and rock outcrops, has good drainage, and is not subject to flooding during periods of heavy use. They should have a surface that is firm after rain and one that is not dusty when dry. If grading and leveling are required, depth to rock is important.

Golf fairways.—These are mowed strips between trees and pattern greens. Soil properties that are significant for this use are slope, trafficability, erodibility, wetness, permeability, productivity, stoniness, texture of surface layer, and susceptibility to flooding.

Use of the Soils for Wildlife Habitat [5]

Successful management of wildlife requires that food, cover, and water be available in a suitable combination. The lack of any one of these necessities may severely limit wildlife population. Information on soils is a valuable tool in creating, improving, or maintaining suitable wildlife habitat.

Most wildlife habitat is managed by planting suitable vegetation and by manipulating the existing vegetation to increase the growth of plants. Water areas can be created, or natural ones can be improved.

Table 8 rates the suitability of all the soils in the survey area for elements of wildlife habitat and for kinds of wildlife. Elevation, aspect, and other factors that affect the habitat were not considered in rating soil suitability. Such factors should be appraised onsite. The suitability ratings shown in table 8 are defined in the following paragraphs.

Well suited means that a suitable habitat generally is easily created, improved, or maintained. There are few or no soil limitations to habitat management, and satisfactory results can be obtained by low intensity of management.

Suited means that a suitable habitat generally can be created, improved, or maintained, but there are moderate soil limitations that affect management. Moderate intensity of management and fairly frequent attention may be required to assure satisfactory results.

Poorly suited means that a suitable habitat generally can be created, improved, or maintained, but that soil limitations affecting habitat management are rather severe and results are uncertain. Management may be difficult and expensive, and it can require intensive effort.

Unsuited means that a suitable habitat cannot be created, improved, or maintained under prevailing soil conditions. Unsatisfactory results are probable.

Special attention is given to the rating of coniferous habitat. Considerable evidence substantiates that if growth is slow and canopy closure is delayed, coniferous habitat harbors larger numbers and kinds of wildlife than if growth is rapid. Soil properties, therefore, that tend to promote rapid growth and canopy closure are actually limitations. In general, the soil characteristics that are favorable for the quick establishment and rapid growth of conifers are also favorable for the establishment of hardwoods. Consequently, there is serious competition between the two species.

The elements of wildlife habitat for which ratings are given in table 8 are described in the following paragraphs.

Grain and seed crops are grains or seed-producing annuals planted to reduce food for wildlife. Examples are corn, sorghum, wheat, oats, millet, soybeans, and proso.

Grasses and legumes are domestic perennial grasses and herbaceous legumes that are planted to provide food and cover for wildlife. Examples are fescue, bromegrass, lovegrass, orchardgrass, reed canarygrass, bahiagrass, white clover, trefoil, alfalfa, annual lespedeza, perennial lespedeza, and shrub lespedeza.

Wild herbaceous upland plants are native or introduced perennial grasses and weeds that provide food and cover, principally to upland forms of wildlife, and that are established mainly through natural processes. Examples are bluestem, wild ryegrass, catgrass, pokeweed, strawberry, lespedeza, beggarweed, wild beans, nightsbeds, goldenrod, dandelion, cheat, poorjoe, and ragweeds.

Hardwood woody plants are nonconiferous trees, shrubs, and woody vines that produce fruits, nuts, buds, catkins, or foliage used extensively as food by wildlife, and which commonly are established through natural processes but also may be planted. Examples are oak, beech, cherry, hawthorn, dogwood, viburnum, maple, birch, poplar, grapes, honeysuckle, blueberry, briers, greenbriers, autumn-olive, and multiflora rose.

Coniferous woody plants are cone-bearing trees and shrubs that are important to wildlife mainly as cover but also furnish food in the form of browse, seeds, or fruitlike cones. The plants commonly are established through natural processes but also may be planted. Examples are pine and redcedar.

Wetland food and cover plants are all annual and perennial, wild herbaceous plants in moist to wet sites, excluding submerged or floating aquatics, that produce food or cover for wetland forms of wildlife. Examples are smartweed, wild millet, bulrush, spike-sedge, rushes, sedges, burreeds, wild rice, rice cutgrass, mannagrass, and cattails.

Shallow water developments are impoundments or excavations for the control of water, generally not exceeding 6 feet in depth. Examples are low dikes and levees, shallow dugouts, level ditches, and water-level controls in marshy drainageways or channels.

The three classes of wildlife shown in table 8 are openland, woodland, and wetland. *Openland wildlife* are quail, doves, meadowlarks, field sparrows, cottontail rabbits, foxes, and other mammals and birds that commonly live on cropland, pasture, meadow, lawn, and in other openland areas. *Woodland wildlife* are woodcocks, thrushes, wild turkeys, vireos, squirrels, deer, raccoons, and other mammals and birds that commonly live in wooded areas where hardwood trees, shrubs, and coniferous trees grow. *Wetland wildlife* are ducks, geese, rails, herons, shore birds, minks, and other animals and birds that commonly live in wet areas, marshes, and swamps.

Assistance in planting and establishing habitat for wildlife or fish may be obtained from the district conservationist of the Soil Conservation Service.

[5] PAUL D. SCHUMACHER, biologist, Soil Conservation Service, helped to prepare this subsection.

TABLE 8.—*Suitability of soils for elements of*

Soil series and map symbols	Elements of wildlife habitat			
	Grain and seed crops	Grasses and legumes	Wild herbaceous upland plants	Hardwood woody plants
Americus:				
ArB, ArC	Suited	Suited	Suited	Suited
ArD	Poorly suited	Suited	Poorly suited	Poorly suited
Carnegie:				
CoB2	Well suited	Well suited	Suited	Suited
CoC2	Suited	Well suited	Suited	Suited
CoD2	Poorly suited	Suited	Suited	Suited
Esto:				
EvC2	Suited	Well suited	Suited	Suited
EvE	Poorly suited	Suited	Suited	Suited
Faceville:				
FuA, FuB2	Well suited	Well suited	Well suited	Suited
FuC2	Suited	Well suited	Well suited	Suited
Goldsboro: Gt	Well suited	Well suited	Suited	Suited
Grady: Grd	Unsuited	Poorly suited	Unsuited	Suited
Greenville:				
GoA, GoB	Well suited	Well suited	Well suited	Suited
GoC2	Suited	Well suited	Suited	Suited
GqC3, GqD3	Poorly suited	Suited	Suited	Suited
Henderson:				
HdC	Suited	Suited	Suited	Suited
HdE	Poorly suited	Suited	Suited	Suited
Irvington: Ig	Well suited	Well suited	Well suited	Well suited
Kinston and Bibb:				
Kib	Unsuited	Poorly suited	Unsuited	Suited
Lakeland:				
LpC	Poorly suited	Suited	Suited	Poorly suited
LpE	Poorly suited	Poorly suited	Suited	Poorly suited
Lucy:				
LMB, LMC	Suited	Suited	Suited	Suited
LMD	Poorly suited	Poorly suited	Suited	Suited
Norfolk: NhA, NhB	Well suited	Well suited	Well suited	Suited
Ochlockonee: Oi	Suited	Well suited	Well suited	Well suited
Orangeburg:				
OeA, OeB	Well suited	Well suited	Well suited	Suited
OeC2	Suited	Well suited	Suited	Suited
OeD2	Suited	Suited	Suited	Suited
Rains: Ros	Unsuited	Poorly suited	Poorly suited	Suited
Red Bay:				
RhA, RhB	Well suited	Well suited	Well suited	Suited
RhC2	Suited	Well suited	Suited	Suited
RhD2	Suited	Suited	Suited	Suited
Tifton:				
TuA, TuB2	Well suited	Well suited	Well suited	Suited
TuC2	Suited	Well suited	Suited	Suited
Vaucluse:				
VeB2, VeC2	Suited	Well suited	Suited	Suited
VeE2	Poorly suited	Suited	Suited	Suited

wildlife habitat and classes of wildlife

Elements of wildlife habitat—Continued			Classes of wildlife		
Coniferous woody plants	Wetland food and cover plants	Shallow water developments	Openland	Woodland	Wetland
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Well suited	Unsuited	Unsuited	Poorly suited	Suited	Unsuited.
Suited	Unsuited	Unsuited	Well suited	Suited	Unsuited.
Suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Well suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Suited	Poorly suited	Poorly suited	Well suited	Suited	Poorly suited.
Poorly suited	Suited	Suited	Poorly suited	Suited	Suited.
Poorly suited	Unsuited	Unsuited	Well suited	Well suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Suited	Unsuited	Unsuited	Poorly suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Poorly suited	Suited	Unsuited.
Suited	Poorly suited	Poorly suited	Well suited	Well suited	Poorly suited.
Suited	Suited	Suited	Unsuited	Suited	Suited.
Suited	Unsuited	Unsuited	Poorly suited	Poorly suited	Unsuited.
Suited	Unsuited	Unsuited	Poorly suited	Poorly suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Poorly suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Well suited	Suited	Unsuited.
Suited	Suited	Poorly suited	Well suited	Well suited	Poorly suited.
Poorly suited	Unsuited	Unsuited	Well suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Well suited	Suited	Poorly suited	Suited	Suited.
Poorly suited	Unsuited	Unsuited	Well suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Well suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Poorly suited	Unsuited	Unsuited	Suited	Suited	Unsuited.
Suited	Unsuited	Unsuited	Poorly suited	Suited	Unsuited.

Formation and Classification of Soils

This section tells how the factors of soil formation have affected the development of soils in Schley and Sumter Counties. It also explains the current system of soil classification and places the soils in higher categories. The soil series in these two counties are described in the section "Descriptions of the Soils." A representative profile for the soil series is included in each series description.

Formation of Soils

Soil is produced when parent material, climate, relief, and plants and animals interact for a period of time. These factors, including time, determine the nature of the soil that forms at any point on the earth. All of these factors affect the formation of each soil, but the relative importance of each factor differs from place to place. In some areas one factor may dominate in the formation of a soil and determine most of the soil properties. A common example is where the parent material consists of pure quartz sand. Quartz sand is highly resistant to weathering, and soils formed in it generally have faint horizons. Even in quartz sand, however, a distinct profile can be formed under certain types of vegetation if the relief is low and flat and the water table is high. The five factors of soil formation are discussed in the paragraphs that follow.

Parent material

Parent material is the unconsolidated mass from which soil forms. It largely determines the chemical and mineralogical composition of a soil. In Schley and Sumter Counties, the parent material of all soils is sediment that was deposited by water.

In both counties, differences in the parent material are largely the result of the manner in which the sands, silts, and clays were sorted and deposited by the ocean and streams many thousands of years ago. Different kinds of soils have developed because of these differences in sorting and deposition. In most soils, profile development is strong because the parent material has been above water and exposed to the soil-forming forces for a long time.

According to the Geologic Map of Georgia (*4*), the parent material of the soils in the two counties weathered from nine geologic formations of two geologic ages. The oldest deposits, or geologic formations, are of the Cretaceous age. These are mainly in the Sandhills section in the northern part of Schley County. These formations are Providence sand, Ripley Formation, and the Cusseta sand. Lakeland and Vaucluse soils are the major soils developed in these areas.

Most of the survey area is made up of the younger geologic formations of the Tertiary age. These are located south of the Cretaceous age formations. The Flint River Formation makes up the majority of this area along with parts of the Clayton, Oclala limestone, McBean, Willcox, and Alluvium deposits formations. The major soils developed in these areas are Tifton, Greenville, Faceville, Orangeburg, and Red Bay soils. These soils occur in varying patterns throughout the area, intermixed chiefly with minor soils, such as the Americus, Norfolk, Lucy, Lakeland, Henderson, Carnegie, Irvington, and Grady soils.

Climate

Climate, particularly temperature and rainfall, largely determines the rate and nature of the physical, chemical, and biological processes that affect the weathering of soil material. Rainfall, freezing, thawing, wind, and sunlight have much to do with the breakdown of rocks and minerals, the release of chemicals, and other processes that affect the development of soils. The amount of water that percolates through the soil depends on rainfall, relative humidity, length of the frost-free period, soil permeability, and physiographic position. Temperature influences the kinds and growth of organisms and the speed of physical and chemical reactions in the soils.

The warm, humid climate of Schley and Sumter Counties is characterized by long, hot summers and short, mild winters. The average rainfall is about 50 inches per year. Much of the water from rainfall percolates through the soil and moves dissolved or suspended materials downward so that the soils are generally low in bases. The rainfall is generally well distributed so that the soils are moist most of the year. Because the surface soil is frozen for only short periods, freezing and thawing have little effect on the development of the soils. The climate throughout the survey area is uniform and has had about the same effect on soil development in all parts. As is normal in this climate, most of the soils on uplands in Schley and Sumter Counties are highly weathered, leached, strongly acid, low in natural fertility, and low in content of organic matter.

Relief

Relief, through its effect on drainage, erosion, plant cover, and temperature, modifies the effect of climate and vegetation on soil formation.

Soils on low flats and in depressions have a high water table and are flooded each year. The soils in these areas are moderately well drained to poorly drained and have a gray or mottled subsoil. In the survey area, Grady and Rains soils are examples of soils developed in the low areas. On broad ridges, the water table is several feet below the surface, and soils in these areas are not flooded. The soils commonly are well drained and are dominantly red to yellow in color. Orangeburg, Tifton, Red Bay, and Greenville soils are examples of soils developed in the higher areas.

A level or nearly level surface allows more time for water to penetrate the soil, and more water percolates through it. This influences the solution and translocation of soluble materials. The moisture available in the soil also determines, to a significant extent, the amount and kinds of plants that grow. Thus, steep soils that have a slowly permeable surface layer are generally drier than level or nearly level soils, and less vegetation grows on them.

The soils in Schley and Sumter Counties are mostly nearly level to gently sloping but range to strongly sloping. The landscape is not extremely hilly, however; and the effect of relief on soil temperature is less pronounced than it is in more hilly and mountainous areas. In Schley and Sumter Counties, soil temperature is affected more by differences in drainage than by relief.

Plants and animals

Plants, animals, bacteria, and other organisms are active in the soil-forming processes. The changes they bring about

depend mainly on the kinds of life processes peculiar to each. The kinds of plants and animals that live on and in the soil are affected, in turn, by climate, parent material, relief, and age of the soil.

Most of the soils in Schley and Sumter Counties formed under forests of various kinds of hardwoods and pines, and these trees supply most of the organic matter to the soils. The hardwoods contribute more than the softwoods, but the content of organic matter in most of the soils is generally low.

Plants provide a cover that helps to reduce erosion and stabilize the surface so that the soil-forming processes can continue. Leaves, twigs, roots, and entire plants accumulate on the surface of soils under forest and then decompose as the result of the action of percolating water and of micro-organisms, earthworms, and other forms of life. Also, the uprooting of trees by wind significantly influences the formation of soils by mixing the soil layers and loosening the underlying material.

Small animals, earthworms, insects, and micro-organisms also influence the formation of soils by mixing organic matter into the soil and by helping to break down the remains of plants. Small animals burrow into the soils and thus mix the layers. Earthworms and other small invertebrates feed on the organic matter in the upper few inches. They slowly but continually mix the soil material and in places alter it chemically. Bacteria, fungi, and other micro-organisms hasten the weathering of rocks and the decomposition of organic matter.

Time

Generally, a long time is required for a soil to form (*7*); but the length of time required for the formation of a mature soil depends upon the other soil-forming factors. A mature soil profile is one in which the zones of eluviation (A horizon) and of illuviation (B horizon) are easily recognized. Less time is required for a soil to develop in a humid, warm area where the vegetation is prolific than in a dry or cold area where the vegetation is sparse. Generally, less time is required if the parent material is coarse textured than if it is fine textured.

Older soils show a greater degree of horizon differentiation than younger ones. For example, the processes of soil formation have been active on the smoother uplands in the two counties for a long time. These soils, therefore, have well-defined horizons. Orangeburg, Norfolk, and Tifton soils are examples of these older soils. Along the streams the soil material has not been in place long enough for well-differentiated horizons to develop. Kinston, Bibb, and Ochlockonee soils are examples of the younger soils.

Classification of Soils

Classification consists of an orderly grouping of soils according to a system designed to make it easier to remember soil characteristics and interrelationships. Classification is useful in organizing and applying the results of experience and research.

Soils are placed in narrow classes for discussion in detailed soil surveys and for application of knowledge within farms and fields. The many thousands of narrow classes are then grouped into progressively fewer and broader classes in successively higher categories, so that information can be applied to large geographic areas.

Two systems of classifying soils have been used in the United States in recent years. The older system was adopted in 1938 (*7*) and revised later (*6*). The system currently used by the National Cooperative Soil Survey (*9*) was developed in the early sixties and was adopted in 1965. It was supplemented in March 1967 and in September 1968. The system is under continual study. Readers interested in the development of the system should refer to the latest literature available (*5*).

The current system of classification has six categories. Beginning with the most inclusive, these categories are the order, the suborder, the great group, the subgroup, the family, and the series. The criteria for classification are soil properties that are observable or measurable, but the properties are selected so that soils of similar genesis are grouped together. The placement of some soil series in the current system of classification, particularly in families, may change as more precise information becomes available.

The classes in the current system are briefly defined in the following paragraphs.

ORDER: Ten soil orders are recognized in the current system. They are Entisols, Vertisols, Inceptisols, Aridisols, Mollisols, Spodosols, Alfisols, Ultisols, Oxisols, and Histosols. The properties used to differentiate the soil orders are those that tend to give broad climatic groupings of soils. The exceptions, Entisols and Histosols, occur in many different climates. The Entisols and Ultisols are the two soil orders represented in Schley and Sumter Counties.

Entisols are young mineral soils that do not have genetic horizons or have only the beginnings of such horizons.

Ultisols are mineral soils that have distinct horizons and are commonly on old land surfaces. They contain a clay-enriched B horizon that has low base saturation. The base saturation decreases with increasing depth.

SUBORDER: Each order is subdivided into suborders, primarily on the basis of soil characteristics that seem to produce classes having the greatest genetic similarity. The suborders have a narrower climatic range than the orders. The criteria for suborders chiefly reflect the presence or absence of waterlogging or soil differences resulting from the climate or vegetation.

GREAT GROUP: Each suborder is divided into great groups according to the presence or absence of genetic horizons and the arrangement of these horizons.

SUBGROUP: Each great group is subdivided into subgroups. One of these subgroups represents the central (typic) segment of the great group, and the others, called intergrades, contain those soils that have properties mostly of the one great group, but also one or more properties of soils in another great group, suborder, or order.

FAMILY: Each subgroup is divided into families, primarily on the basis of properties important to the growth of plants. Among the properties considered are texture, mineralogy, reaction, soil temperature, permeability, consistence, and thickness of horizons.

SERIES: The series consists of a group of soils that formed from a particular kind of parent material and have genetic horizons that, except for texture of the surface soils, are similar in differentiating characteristics

and in arrangement in the soil profile. Among these characteristics are color, structure, reaction, consistence, and mineralogical and chemical composition.

New soil series must be established and concepts of some established series, especially older ones that have been used little in recent years, must be revised in the course of the soil survey program across the country. A proposed new series has tentative status until review of the series concept at the State, regional, and national levels of responsibility for soil classification results in a judgment that the new series should be established. The soil series described in this publication have been established earlier. Many have been revised since they were first established.

In table 9 the soil series in Schley and Sumter Counties are classified according to the current system of soil classification.

Additional Facts About the Counties

This section describes the relief, drainage, water supply, and climate of Schley and Sumter Counties.

Relief and Drainage

Schley and Sumter Counties are made up of two broad physiographic areas. From north to south, these areas are the Sandhills and the Southern Coastal Plain. The soils of both areas are sedimentary and were transported from other areas and deposited in their present position by the ocean or streams.

The northern part of Schley County is in the Sandhills area. This area is gently rolling to hilly and is dissected by many narrow valleys and drainageways. Minor areas in the western part of Schley County also have similar relief. Most of the Sandhills area is wooded.

The Southern Coastal Plain is south of the Sandhills and makes up the rest of the two counties. This area is mainly nearly level to gently sloping and is dissected by many small streams and drainageways. The upland divides are smoother and broader than those in the Sandhills area. A few strongly sloping areas are scattered over this section. They occur mainly along the streams. Level to very gently sloping areas that have many sinks or depressions occur in the southeast portion of Sumter County in the vicinity of Leslie. Most of the relief in the Southern Coastal Plain section is suited to mechanized farm equipment and to full-scale farming. Much of the area is in cultivated crops and pasture.

Americus is about 355 feet above sea level and Ellaville about 565 feet. Other approximate elevations are Plains, 500 feet; Leslie, 345 feet; Cobb, 300 feet; and Andersonville, 390 feet.

The Flint River and its tributaries drain all of Schley and Sumter Counties. The river flows along the northeastern boundary of Sumter County and then south into Lake Blackshear, which is along the southeastern boundary of the county. The dam that forms Lake Blackshear is on the Flint River a few miles south of Sumter County.

The main tributaries of the Flint River are Buck, Muckalee, Little Muckalee, and Kinchafoonee Creeks. Buck Creek drains the northern part of Schley County, and Muckalee and Little Muckalee Creeks drain the southwest part of Schley County and the northwest and central parts of Sumter County. Kinchafoonee Creek drains the southwest part of Sumter County, and other small Creeks which flow into the Flint River drain the rest of the two counties. Many small creeks, branches, and drainageways flow into the main tributaries throughout the two counties.

Water Supply

Ground water is abundant in Schley and Sumter Counties. Generally, a well 50 to 75 feet deep furnishes a dependable supply of water for household use the year round, except in periods of extremely dry weather. Water for domestic use on most farms comes from drilled wells that are about 100 to 300 feet deep and 2 to 4 inches in diameter.

TABLE 9.—*Soil series classified by higher categories*

Series	Family	Subgroup	Order
Americus	Sandy, siliceous, thermic	Rhodic Paleudults	Ultisols.
Bibb	Coarse-loamy, siliceous, acid, thermic	Typic Haplaquents	Entisols.
Carnegie	Fine-loamy, siliceous, thermic	Plinthic Paleudults	Ultisols.
Esto	Clayey, kaolinitic, thermic	Typic Paleudults	Ultisols.
Faceville	Clayey, kaolinitic, thermic	Typic Paleudults	Ultisols.
Goldsboro	Fine-loamy, siliceous, thermic	Aquic Paleudults	Ultisols.
Grady	Clayey, kaolinitic, thermic	Typic Paleaquults	Ultisols.
Greenville	Clayey, kaolinitic, thermic	Rhodic Paleudults	Ultisols.
Henderson	Clayey, kaolinitic, thermic	Typic Paleudults	Ultisols.
Irvington	Fine-loamy, siliceous, thermic	Plinthic Fragiudults	Ultisols.
Kinston	Fine-loamy, siliceous, acid, thermic	Typic Fluvaquents	Entisols.
Lakeland	Siliceous, thermic, coated	Typic Quartzipsamments	Entisols.
Lucy	Loamy, siliceous, thermic	Arenic Paleudults	Ultisols.
Norfolk	Fine-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Ochlockonee	Coarse-loamy, siliceous, acid, thermic	Typic Udifluvents	Entisols.
Orangeburg	Fine-loamy, siliceous, thermic	Typic Paleudults	Ultisols.
Rains	Fine-loamy, siliceous, thermic	Typic Paleaquults	Ultisols.
Red Bay	Fine-loamy, siliceous, thermic	Rhodic Paleudults	Ultisols.
Tifton	Fine-loamy, siliceous, thermic	Plinthic Paleudults	Utisols.
Vaucluse	Fine-loamy, siliceous, thermic	Typic Fragiudults	Ultisols.

These deep wells furnish adequate supplies of water, even during the periods of extremely dry weather. Water for the towns in the two counties is from wells that are about 500 to 900 feet deep and 8 to 10 inches in diameter.

A few artesian springs are along the Flint River and along creeks in the southern part of Sumter County. Small contact gravity springs occur at the bottom of slopes along drainageways and streams throughout the two counties.

In addition to the ground supply, water can also be obtained from the many branches and creeks that flow through the area. There are also several farm ponds in the two counties. The Flint River and Lake Blackshear along the eastern boundary of Sumter County are excellent sources of water.

Climate [6]

Schley and Sumter Counties are located in Georgia's Upper Coastal Plain approximately 150 miles north of the Gulf of Mexico. The climate is influenced by the latitude and the location in relation to the warm waters of the Gulf. Temperature and precipitation data are shown in table 10, and the probabilities of critical temperature in spring and fall in table 11. Summers are warm and humid. A typical summer day has an early morning minimum temperature in the low 70's and an afternoon high in the middle 90's. From June through August, about 2 of every 3 days will have a maximum temperature of 90° F. or higher. The temperature rises to 100° or more 5 or 6 days of the summer. Moist air from the Gulf of Mexico causes a high incidence of cumulus clouds and frequent afternoon thundershowers. This condition slows the daily temperature rise but increases the humidity.

[6] By HORACE S. CARTER, climatologist for Georgia, National Weather Service, U.S. Department of Commerce.

Relatively mild winters permit normal outside activities to be carried on with only minor interruptions. Cold spells during which minimum temperatures drop to freezing or below usually last only 2 or 3 days and are followed by longer periods of mild weather. Freezing occurs on 30 to 40 days during an average winter, and a temperature of 20° F. or below can be expected on only 2 or 3 days. The freeze-free season generally extends from mid-March to about November 12, an average of 240 to 245 days.

Windy weather and frequent periods of unsettled weather conditions characterize spring. Thunderstorm activity begins increasing and reaches a peak in summer. An occasional tornado occurs in the survey area. Long periods of sunny weather, warm days, and cool nights are common in fall.

Annual rainfall averages about 50 inches. The rainfall is fairly evenly distributed throughout the year except for a slight maximum during the months of March and July. The average rainfall during these months is more than 5 inches. The minimum amount of rainfall occurs in October and November. The average rainfall during those months is less than 3 inches. Most warm-season rainfall comes from thundershowers. These showers frequently occur in the afternoon and generally are of short duration. Rainfall in winter and early spring is commonly associated with low pressure centers that move through or near the area, generally from southwest to northwest. These storms bring general rains that may continue for several hours, or several days, depending on the speed of movement of the storm center. In spite of the ample rainfall, periods of dry weather occur in most years. Fortunately, such periods are more likely to occur late in summer and in fall after most major crops have matured.

Snowfall is unusual in the area. Brief flurries occur every few years, but measurable accumulations are rare.

TABLE 10.—*Temperature and precipitation data for Schley and Sumter Counties*

Month	Temperature				Precipitation		
	Average daily maximum	Average daily minimum	Two years in 10 will have at least 4 days with—		Average total	One year in 10 will have—	
			Maximum temperature equal to or higher than—	Minimum temperature equal to or lower than—		Less than—	More than—
	° F.	*° F.*	*° F.*	*° F.*	*Inches*	*Inches*	*Inches*
January	60.3	38.8	77	22	4.47	1.7	10.9
February	63.2	40.8	78	26	4.78	1.6	8.5
March	69.4	45.9	83	31	5.39	2.2	8.5
April	77.5	53.1	87	39	4.71	1.8	7.4
May	85.7	61.2	96	50	3.10	1.2	5.5
June	90.4	68.2	98	61	4.70	1.7	7.8
July	90.9	70.2	98	67	5.84	2.2	9.5
August	91.6	69.7	99	64	4.21	1.6	7.7
September	86.9	65.5	95	56	3.76	1.5	8.5
October	78.6	54.6	89	40	2.20	.1	5.1
November	68.6	44.3	81	29	2.64	.7	6.5
December	60.7	38.7	75	24	4.55	1.6	10.0
Year	77.0	54.3	[1] 101	[1] 18	50.35	37.0	67.6

[1] The extreme temperature that will be equaled or exceeded (minimum equal to or lower than) on at least 4 days in 2 years out of 10 years.

TABLE 11.—*Probabilities of last freezing temperature in spring and first freezing temperature in fall for Schley and Sumter Counties*

Probability	Dates for given probability and temperature		
	24° F. or lower	28° F. or lower	32° F. or lower
Spring:			
1 year in 10 later than	March 4	March 20	April 12
2 years in 10 later than	February 26	March 9	April 1
5 years in 10 later than	February 1	February 27	March 17
Fall:			
1 year in 10 earlier than	November 22	November 15	October 30
2 years in 10 earlier than	November 26	November 20	November 3
5 years in 10 earlier than	December 4	November 30	November 11

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Glossary

Alluvium. Soil material, such as sand, silt, or clay, that has been deposited on land by streams.

Available water capacity (also termed available moisture capacity). The capacity of soils to hold water available for use by most plants. It is commonly defined as the difference between the amount of soil water at field capacity and the amount at wilting point. It is commonly expressed as inches of water per inch of soil.

Clay. As a soil separate, the mineral soil particles less than 0.002 millimeter in diameter. As a soil textural class, soil material that is 40 percent or more clay, less than 45 percent sand, and less than 40 percent silt.

Concretions. Grains, pellets, or nodules of various sizes, shapes, and colors consisting of concentrations of compounds, or of soil grains cemented together. The composition of some concretions is unlike that of the surrounding soil. Calcium carbonate and iron oxide are examples of material commonly found in concretions.

Consistence, soil. The feel of the soil and the ease with which a lump can be crushed by the fingers. Terms commonly used to describe consistence are—

Loose.—Noncoherent when dry or moist; does not hold together in a mass.

Friable.—When moist, crushes easily under gentle pressure between thumb and forefinger, but resistance is distinctly noticeable.

Firm.—When moist, crushes under moderate pressure between thumb and forefinger, but resistance is distinctly noticeable.

Plastic.—When wet, readily deformed by moderate pressure but can be pressed into a lump; will form a "wire" when rolled between thumb and forefinger.

Sticky.—When wet, adheres to other material, and tends to stretch somewhat and pull apart, rather than to pull free from other material.

Hard.—When dry, moderately resistant to pressure; can be broken with difficulty between thumb and forefinger.

Soft.—When dry, breaks into powder or individual grains under very slight pressure.

Cemented.—Hard and brittle; little affected by moistening.

Drainage class (natural).—Refers to the conditions of frequency and duration of periods of saturation or partial saturation that existed during the development of the soil, as opposed to altered drainage, which is commonly the result of artificial drainage or irrigation but may be caused by the sudden deepening of channels or the blocking of drainage outlets. Seven different classes of natural soil drainage are recognized.

Excessively drained soils are commonly very porous and rapidly permeable and have a low water-holding capacity.

Somewhat excessively drained soils are also very permeable and are free from mottling throughout their profile.

Well-drained soils are nearly free from mottling and are commonly of intermediate texture.

Moderately well drained soils commonly have a slowly permeable layer in or immediately beneath the solum. They have uniform color in the A horizon and in the upper part of the B horizon and have mottling in the lower B and the C horizons.

Somewhat poorly drained soils are wet for significant periods but not all the time. In Podzolic soils they commonly have mottlings below 6 to 16 inches, in the lower A horizon and in the B and C horizons.

Poorly drained soils are wet for long periods. They are light gray and generally are mottled from the surface downward, although mottling may be absent or nearly so in some soils.

Very poorly drained soils are wet most of the time. They have a dark-gray or black surface layer and are gray or light gray, with or without mottling, in the deeper parts of the profile.

Flood plain. Nearly level soils consisting of stream sediments, that border a stream. They are subject to flooding unless protected artificially.

Fragipan. A loamy, brittle, subsurface horizon that is very low in organic matter and clay but rich in silt or very fine sand. The layer is seemingly cemented. When dry, it is hard or very hard and has a high bulk density in comparison with the horizon or horizons above it. When moist, the fragipan tends to rupture suddenly if pressure is applied, rather than to deform slowly. The layer generally is mottled, is slowly or very slowly permeable to water, and has few or many bleached fracture planes that form polygons. Fragipans are a few inches to several feet thick; they generally occur below the B horizon, 15 to 40 inches below the surface.

Gleyed soil. A soil in which waterlogging and lack of oxygen have caused the material in one or more horizons to be neutral gray in color. The term "gleyed" is applied to soil horizons that have yellow and gray mottling caused by intermittent waterlogging.

Horizon, soil. A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes. These are the major horizons:

O horizon.—The layer of organic matter on the surface of a mineral soil. This layer consists of decaying plant residue.

A horizon.—The mineral horizon at the surface or just below an O horizon. This horizon is the one in which living organisms are most active and therefore is marked by the accumulation of humus. The horizon may have lost one or more of soluble salts, clay, and sesquioxides (iron and aluminum oxides).

B horizon.—The mineral horizon below an A horizon. The B horizon is in part a layer of change from the overlying A to the underlying C horizon. The B horizon also has distinctive characteristics caused (1) by accumulation of clay, sesquioxides, humus, or some combination of these; (2) by prismatic or blocky structure; (3) by redder or stronger colors than the A horizon; or (4) by some combination of these. Combined A and B horizons are usually called the solum, or true soil. If a soil lacks a B horizon, the A horizon alone is the solum.

C horizon.—The weathered rock material immediately beneath the solum. In most soils this material is presumed to be like that from which the overlying horizons were formed. If the material is known to be different from that in the solum, a Roman numeral precedes the letter C.

R layer.—Consolidated rock beneath the soil. The rock usually underlies a C horizon but may be immediately beneath an A or B horizon.

Leaching. The removal of soluble materials from soils or other material by percolating water.

Munsell notation. A system for designating color by degrees of the three simple variables—hue, value, and chroma. For example, a notation of 10YR 6/4 is a color with a hue of 10YR, a value of 6, and a chroma of 4.

Parent material. Disintegrated and partly weathered rock from which soil has formed.

Permeability. The quality of a soil horizon that enables water or air to move through it. Terms used to describe permeability are as follows: *very slow, slow, moderately slow, moderate, moderately rapid, rapid,* and *very rapid.*

Plinthite. The sesquioxide-rich, humus-poor, highly weathered mixture of clay with quartz and other dilutents that commonly shows as red mottles, usually in platy, polygonal, or reticulate patterns. Plinthite changes irreversibly to hardpan or to irregular aggregates on repeated wetting and drying, or it is the hardened relicts of the soft, red mottles. It is a form of the material that has been called laterite.

Profile, soil. A vertical section of the soil through all its horizons and extending into the parent material.

Reaction, soil. The degree of acidity or alkalinity of a soil, expressed in pH values. A soil that tests to pH 7.0 is precisely neutral in reaction because it is neither acid nor alkaline. An acid, or "sour," soil is one that gives an acid reaction; an alkaline soil is one that is alkaline in reaction. In words, the degrees of acidity or alkalinity are expressed thus:

	pH		*pH*
Extremely acid	Below 4.5	Neutral	6.6 to 7.3
Very strongly acid	4.5 to 5.0	Mildly alkaline	7.4 to 7.8
Strongly acid	5.1 to 5.5	Moderately alkaline	7.9 to 8.4
Medium acid	5.6 to 6.0	Strongly alkaline	8.5 to 9.0
Slightly acid	6.1 to 6.5	Very strongly alkaline.	9.1 and higher

Relief. The elevations or inequalities of a land surface, considered collectively.

Runoff (hydraulics). The part of the precipitation upon a drainage area that is discharged from the area in stream channels. The water that flows off the land surface without sinking in is called surface runoff; that which enters the ground before reaching surface streams is called ground-water runoff or seepage flow from ground water.

Sand. Individual rock or mineral fragments in soils having diameters ranging from 0.05 to 2.0 millimeters. Most sand grains consist of quartz, but they may be of any mineral composition. The textural class name of any soil that contains 85 percent or more sand and not more than 10 percent clay.

Silt. Individual mineral particles in a soil that range in diameter from the upper limit of clay (0.002 millimeter) to the lower limit of very fine sand (0.05 millimeter). Soil of the silt textural class is 80 percent or more silt and less than 12 percent clay.

Soil. A natural, three-dimensional body on the earth's surface that supports plants and that has properties resulting from the integrated effect of climate and living matter acting on earthy parent material, as conditioned by relief over periods of time.

Solum. The upper part of a soil profile, above the parent material, in which the processes of soil formation are active. The solum in mature soil includes the A and B horizons. Generally, the characteristics of the material in these horizons are unlike those of the underlying material. The living roots and other plant and animal life characteristic of the soil are largely confined to the solum.

Structure, soil. The arrangement of primary soil particles into compound particles or clusters that are separated from adjoining aggregates and have properties unlike those of an equal mass of unaggregated primary soil particles. The principal forms of soil structure are—*platy* (laminated), *prismatic* (vertical axis of aggregates longer than horizontal), *columnar* (prisms with rounded tops), *blocky* (angular or subangular), and *granular*. *Structureless* soils are (1) *single grain* (each grain by itself, as in dune sand) or (2) *massive* (the particles adhering together without any regular cleavage, as in many claypans and hardpans).

Subsoil. Technically, the B horizon; roughly, the part of the solum below plow depth.

Substratum. Technically, the part of the soil below the solum.

Surface soil. The soil ordinarily moved in tillage, or its equivalent in uncultivated soil, about 5 to 8 inches in thickness. The plowed layer.

Texture, soil. The relative proportions of sand, silt, and clay particles in a mass of soil. The basic textural classes, in order of increasing proportion of fine particles, are *sand, loamy sand, sandy loam, loam, silt loam, silt, sandy clay loam, clay loam, silty clay loam, sandy clay, silty clay,* and *clay.* The sand, loamy sand, and sandy loam classes may be further divided by specifying "coarse," "fine," or "very fine."

Tilth, soil. The condition of the soil in relation to the growth of plants, especially soil structure. Good tilth refers to the friable state and is associated with high noncapillary porosity and stable, granular structure. A soil in poor tilth is nonfriable, hard, nonaggregated, and difficult to till.

Upland (geology). Land consisting of material unworked by water in recent geologic time and lying, in general, at a higher elevation than the alluvial plain or stream terrace. Land above the lowlands above rivers.

U.S. DEPARTMENT OF AGRICULTURE

Washington, D.C. 20250

Soil Survey of Schley and Sumter Counties, Georgia

E R R A T U M

The attached Guide to Mapping Units was omitted from this publication through printer's error.

GUIDE TO MAPPING UNITS

For a full description of a mapping unit, read both the description of the mapping unit and the description of the soil series to which it belongs. A technical profile that is representative of the soil series is described under the series. The use of the soils for crops and pasture is described by capability units beginning on page 27. Other information is provided in tables as follows:

Acreage and extent, table 1, page 8.
Estimated yields, table 2, page 34.
Woodland management, table 3, page 36.
Engineering uses, tables 4, 5, and 6, pages 40 to 51.
Town and country planning, table 7, page 52.
Suitability for wildlife, table 8, page 60.

Map symbol	Mapping unit	Page	Capability unit Symbol	Capability unit Page	Woodland suitability unit Number
ArB	Americus loamy sand, 0 to 5 percent slopes	8	IIIs-1	31	3s2
ArC	Americus loamy sand, 5 to 8 percent slopes	9	IVs-1	32	3s2
ArD	Americus loamy sand, 8 to 15 percent slopes	9	VIs-1	33	3s2
CoB2	Carnegie sandy loam, 2 to 5 percent slopes, eroded	10	IIIe-4	30	2o1
CoC2	Carnegie sandy loam, 5 to 8 percent slopes, eroded	10	IVe-4	31	2o1
CoD2	Carnegie sandy loam, 8 to 12 percent slopes, eroded	10	VIe-2	33	2o1
EvC2	Esto complex, 5 to 8 percent slopes, eroded	11	VIe-2	33	3o1
EvE	Esto complex, 8 to 17 percent slopes	11	VIIe-2	33	3o1
FuA	Faceville sandy loam, 0 to 2 percent slopes	12	I-2	28	3o1
FuB2	Faceville sandy loam, 2 to 5 percent slopes, eroded	12	IIe-2	28	3o1
FuC2	Faceville sandy loam, 5 to 8 percent slopes, eroded	12	IIIe-2	30	3o1
GoA	Greenville sandy loam, 0 to 2 percent slopes	14	I-2	28	3o1
GoB	Greenville sandy loam, 2 to 5 percent slopes	14	IIe-2	28	3o1
GoC2	Greenville sandy loam, 5 to 8 percent slopes, eroded	15	IIIe-2	30	3o1
GqC3	Greenville sandy clay loam, 5 to 8 percent slopes, severely eroded	15	IVe-2	31	3c2
GqD3	Greenville sandy clay loam, 8 to 12 percent slopes, severely eroded	15	VIe-1	32	3c2
Grd	Grady soils	13	Vw-1	32	2w9
Gt	Goldsboro loamy sand	13	IIw-2	29	2w8
HdC	Henderson cherty sandy loam, 2 to 8 percent slopes	16	IIIe-4	30	3o1
HdE	Henderson cherty sandy loam, 8 to 17 percent slopes	16	VIIe-2	33	3o1
Ig	Irvington sandy loam	17	IIw-2	29	2o7
Kib	Kinston and Bibb soils	18	Vw-2	32	2w9
LMB	Lucy loamy sand, 0 to 5 percent slopes	20	IIs-1	30	3s2
LMC	Lucy loamy sand, 5 to 8 percent slopes	20	IIIs-1	31	3s2
LMD	Lucy loamy sand, 8 to 12 percent slopes	20	VIs-1	33	3s2
LpC	Lakeland sand, 0 to 8 percent slopes	19	IVs-1	32	4s2
LpE	Lakeland sand, 8 to 17 percent slopes	19	VIIe-3	33	4s2
NhA	Norfolk loamy sand, 0 to 2 percent slopes	21	I-1	28	2o1
NhB	Norfolk loamy sand, 2 to 5 percent slopes	21	IIe-1	28	2o1
OeA	Orangeburg loamy sand, 0 to 2 percent slopes	22	I-1	28	2o1
OeB	Orangeburg loamy sand, 2 to 5 percent slopes	22	IIe-1	28	2o1
OeC2	Orangeburg loamy sand, 5 to 8 percent slopes, eroded	22	IIIe-1	30	2o1
OeD2	Orangeburg loamy sand, 8 to 12 percent slopes, eroded	23	IVe-1	31	2o1
Oi	Ochlockonee soils, local alluvium	21	IIw-1	29	1o7
RhA	Red Bay sandy loam, 0 to 2 percent slopes	24	I-1	28	2o1
RhB	Red Bay sandy loam, 2 to 5 percent slopes	24	IIe-1	28	2o1
RhC2	Red Bay sandy loam, 5 to 8 percent slopes, eroded	24	IIIe-1	30	2o1
RhD2	Red Bay sandy loam, 8 to 12 percent slopes, eroded	24	IVe-1	31	2o1
Ros	Rains sandy loam	23	Vw-4	32	2w3
TuA	Tifton sandy loam, 0 to 2 percent slopes	25	I-2	28	2o1
TuB2	Tifton sandy loam, 2 to 5 percent slopes, eroded	25	IIe-2	28	2o1
TuC2	Tifton sandy loam, 5 to 8 percent slopes, eroded	25	IIIe-2	30	2o1
VeB2	Valcluse loamy sand, 2 to 5 percent slopes, eroded	26	IIIe-4	30	3o1
VeC2	Vaucluse loamy sand, 5 to 8 percent slopes, eroded	26	IVe-4	31	3o1
VeE2	Vaucluse loamy sand, 8 to 17 percent slopes, eroded	26	VIIe-2	33	3o1

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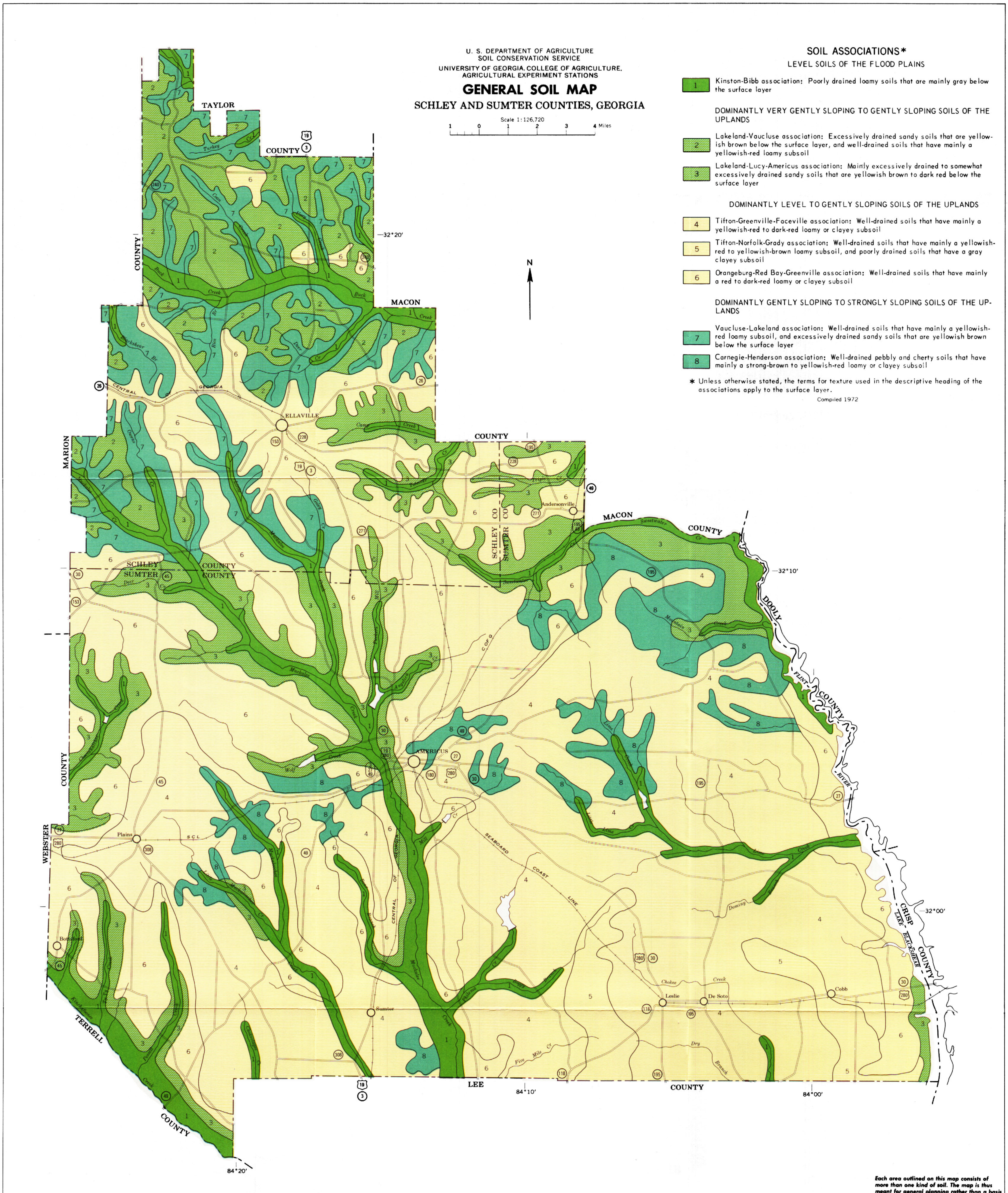
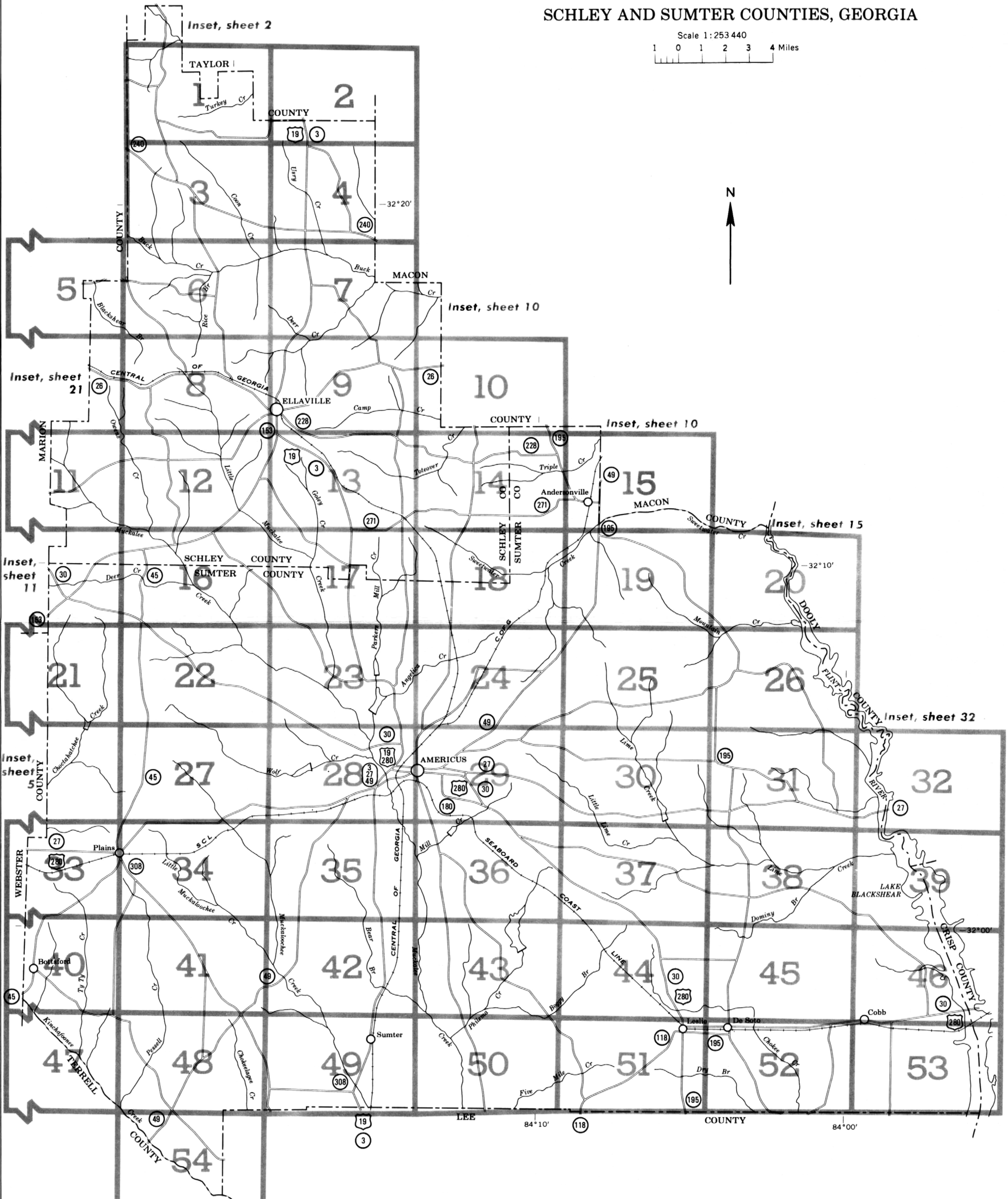

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
UNIVERSITY OF GEORGIA, COLLEGE OF AGRICULTURE,
AGRICULTURAL EXPERIMENT STATIONS
GENERAL SOIL MAP
SCHLEY AND SUMTER COUNTIES, GEORGIA
Scale 1:126,720
1 0 1 2 3 4 Miles
SOIL ASSOCIATIONS*
LEVEL SOILS OF THE FLOOD PLAINS
1 Kinston-Bibb association: Poorly drained loamy soils that are mainly gray below the surface layer
DOMINANTLY VERY GENTLY SLOPING TO GENTLY SLOPING SOILS OF THE UPLANDS
2 Lakeland-Vaucluse association: Excessively drained sandy soils that are yellowish brown below the surface layer, and well-drained soils that have mainly a yellowish-red loamy subsoil
3 Lakeland-Lucy-Americus association: Mainly excessively drained to somewhat excessively drained sandy soils that are yellowish brown to dark red below the surface layer
DOMINANTLY LEVEL TO GENTLY SLOPING SOILS OF THE UPLANDS
4 Tifton-Greenville-Faceville association: Well-drained soils that have mainly a yellowish-red to dark-red loamy or clayey subsoil
5 Tifton-Norfolk-Grady association: Well-drained soils that have mainly a yellowish-red to yellowish-brown loamy subsoil, and poorly drained soils that have a gray clayey subsoil
6 Orangeburg-Red Bay-Greenville association: Well-drained soils that have mainly a red to dark-red loamy or clayey subsoil
DOMINANTLY GENTLY SLOPING TO STRONGLY SLOPING SOILS OF THE UPLANDS
7 Vaucluse-Lakeland association: Well-drained soils that have mainly a yellowish-red loamy subsoil, and excessively drained sandy soils that are yellowish brown below the surface layer
8 Carnegie-Henderson association: Well-drained pebbly and cherty soils that have mainly a strong-brown to yellowish-red loamy or clayey subsoil
* Unless otherwise stated, the terms for texture used in the descriptive heading of the associations apply to the surface layer.
Compiled 1972
N
TAYLOR COUNTY
MACON COUNTY
MARION COUNTY
SCHLEY COUNTY
SUMTER COUNTY
SCHLEY CO
SUMTER CO
DOOLY COUNTY
CRISP COUNTY
WEBSTER COUNTY
TERRELL COUNTY
LEE COUNTY
FLINT RIVER
LAKE BLACKSHEAR
ELLAVILLE
AMERICUS
Andersonville
Plains
Leslie
De Soto
Cobb
Sumter
32°20'
32°10'
32°00'
84°20'
84°10'
84°00'
Each area outlined on this map consists of more than one kind of soil. The map is thus meant for general planning rather than a basis for decisions on the use of specific tracts.

INDEX TO MAP SHEETS

SCHLEY AND SUMTER COUNTIES, GEORGIA

Scale 1:253 440

1 0 1 2 3 4 Miles



CONVENTIONAL SIGNS

WORKS AND STRUCTURES

Highways and roads
- Divided
- Good motor
- Poor motor
- Trail

Highway markers
- National Interstate
- U. S.
- State or county

Railroads
- Single track
- Multiple track
- Abandoned

Bridges and crossings
- Road
- Trail
- Railroad
- Ferry (FY)
- Ford (FORD)
- Grade
- R. R. over
- R. R. under

Buildings
- School
- Church

Mine and quarry

Gravel pit

Power line

Pipeline

Cemetery

Dams

Levee

Tanks

Sawmill

Forest fire or lookout station

Airport

Located object

BOUNDARIES

National or state

County

Minor civil division

Reservation

Land grant

Small park, cemetery, airport

Land survey division corners

DRAINAGE

Streams, double-line
- Perennial
- Intermittent

Streams, single-line
- Perennial
- Intermittent
  - Crossable with tillage implements
  - Not crossable with tillage implements
  - Unclassified

Canals and ditches

Lakes and ponds
- Perennial (water, w)
- Intermittent (int)

Spring

Marsh or swamp

Wet spot

Drainage end or alluvial fan

RELIEF

Escarpments
- Bedrock
- Other

Short steep slope

Prominent peak

Depressions (Large, Small)
- Crossable with tillage implements
- Not crossable with tillage implements
- Contains water most of the time

SOIL SURVEY DATA

Soil boundary
and symbol (Dx)

Gravel

Stoniness
- Stony
- Very stony

Rock outcrops

Chert fragments

Clay spot

Sand spot

Gumbo or scabby spot

Made land

Severely eroded spot

Blowout, wind erosion

Gully

Borrow pit (B.P.)

SOIL LEGEND

The first letter in each symbol is the initial one of the soil name. If the third letter is a capital, it shows the range of slope from A, 0 to 2 percent, to E, 8 to 17 percent. A number after the slope letter denotes the class of erosion as given in the soil name.

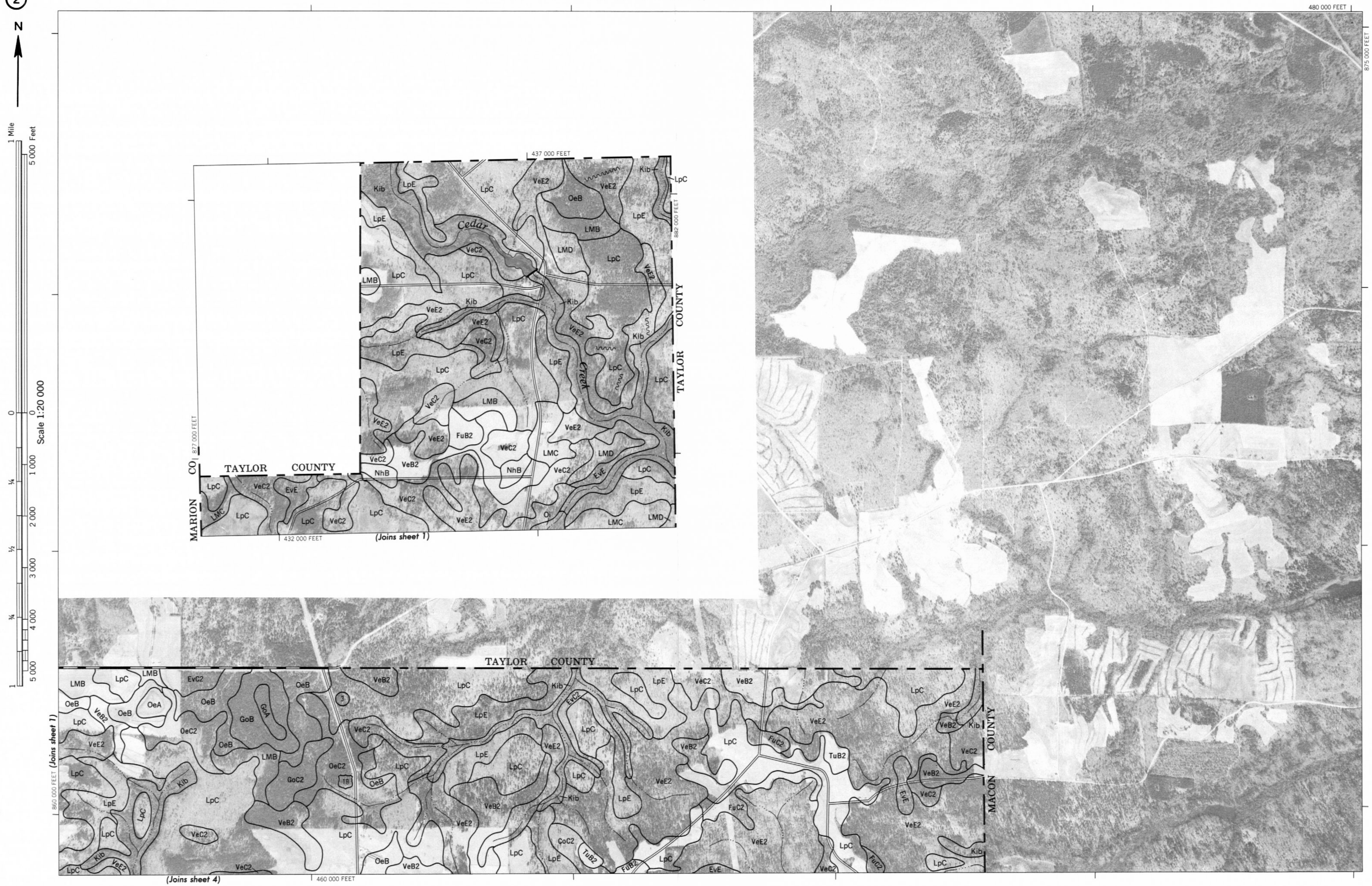
SYMBOL	NAME
ArB	Americus loamy sand, 0 to 5 percent slopes
ArC	Americus loamy sand, 5 to 8 percent slopes
ArD	Americus loamy sand, 8 to 15 percent slopes
CoB2	Carnegie sandy loam, 2 to 5 percent slopes, eroded
CoC2	Carnegie sandy loam, 5 to 8 percent slopes, eroded
CoD2	Carnegie sandy loam, 8 to 12 percent slopes, eroded
EvC2	Esto complex, 5 to 8 percent slopes, eroded
EvE	Esto complex, 8 to 17 percent slopes
FuA	Faceville sandy loam, 0 to 2 percent slopes
FuB2	Faceville sandy loam, 2 to 5 percent slopes, eroded
FuC2	Faceville sandy loam, 5 to 8 percent slopes, eroded
GoA	Greenville sandy loam, 0 to 2 percent slopes
GoB	Greenville sandy loam, 2 to 5 percent slopes
GoC2	Greenville sandy loam, 5 to 8 percent slopes, eroded
GqC3	Greenville sandy clay loam, 5 to 8 percent slopes, severely eroded
GqD3	Greenville sandy clay loam, 8 to 12 percent slopes, severely eroded
Grd	Grady soils
Gt	Goldsboro loamy sand
HdC	Henderson cherty sandy loam, 2 to 8 percent slopes
HdE	Henderson cherty sandy loam, 8 to 17 percent slopes
Ig	Irvington sandy loam
Kib	Kinston and Bibb soils *
LMB	Lucy loamy sand, 0 to 5 percent slopes
LMC	Lucy loamy sand, 5 to 8 percent slopes
LMD	Lucy loamy sand, 8 to 12 percent slopes
LpC	Lakeland sand, 0 to 8 percent slopes
LpE	Lakeland sand, 8 to 17 percent slopes
NhA	Norfolk loamy sand, 0 to 2 percent slopes
NhB	Norfolk loamy sand, 2 to 5 percent slopes
OeA	Orangeburg loamy sand, 0 to 2 percent slopes
OeB	Orangeburg loamy sand, 2 to 5 percent slopes
OeC2	Orangeburg loamy sand, 5 to 8 percent slopes, eroded
OeD2	Orangeburg loamy sand, 8 to 12 percent slopes, eroded
Oi	Ochlockonee soils, local alluvium
RhA	Red Bay sandy loam, 0 to 2 percent slopes
RhB	Red Bay sandy loam, 2 to 5 percent slopes
RhC2	Red Bay sandy loam, 5 to 8 percent slopes, eroded
RhD2	Red Bay sandy loam, 8 to 12 percent slopes, eroded
Ros	Rains sandy loam
TuA	Tifton sandy loam, 0 to 2 percent slopes
TuB2	Tifton sandy loam, 2 to 5 percent slopes, eroded
TuC2	Tifton sandy loam, 5 to 8 percent slopes, eroded
VeB2	Vaucluse loamy sand, 2 to 5 percent slopes, eroded
VeC2	Vaucluse loamy sand, 5 to 8 percent slopes, eroded
VeE2	Vaucluse loamy sand, 8 to 17 percent slopes, eroded

* The composition of these units is more variable than that of other units in the survey area but has been controlled well enough to interpret for the expected use of the soils.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 1

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

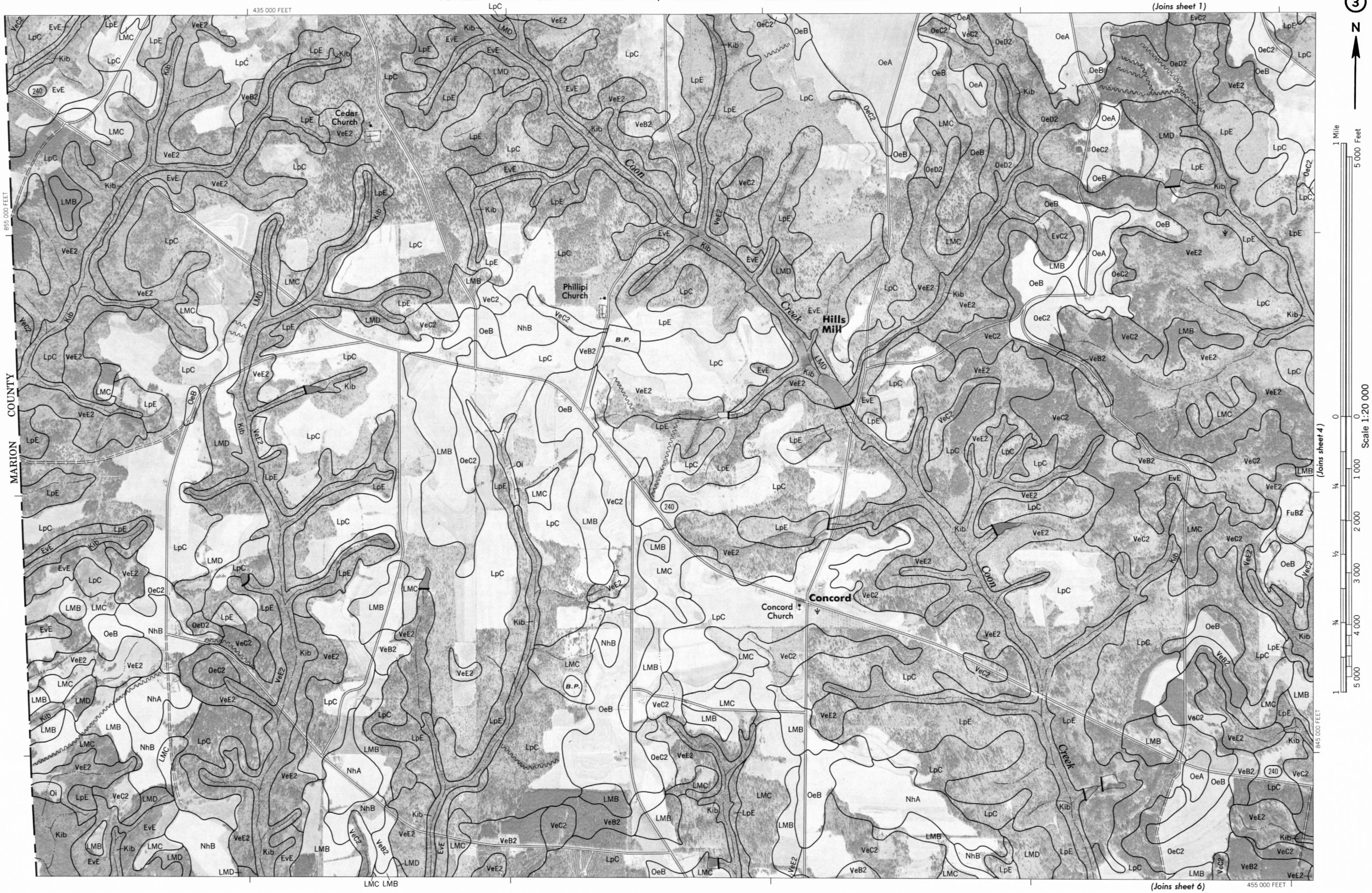
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 2



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 2

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 3

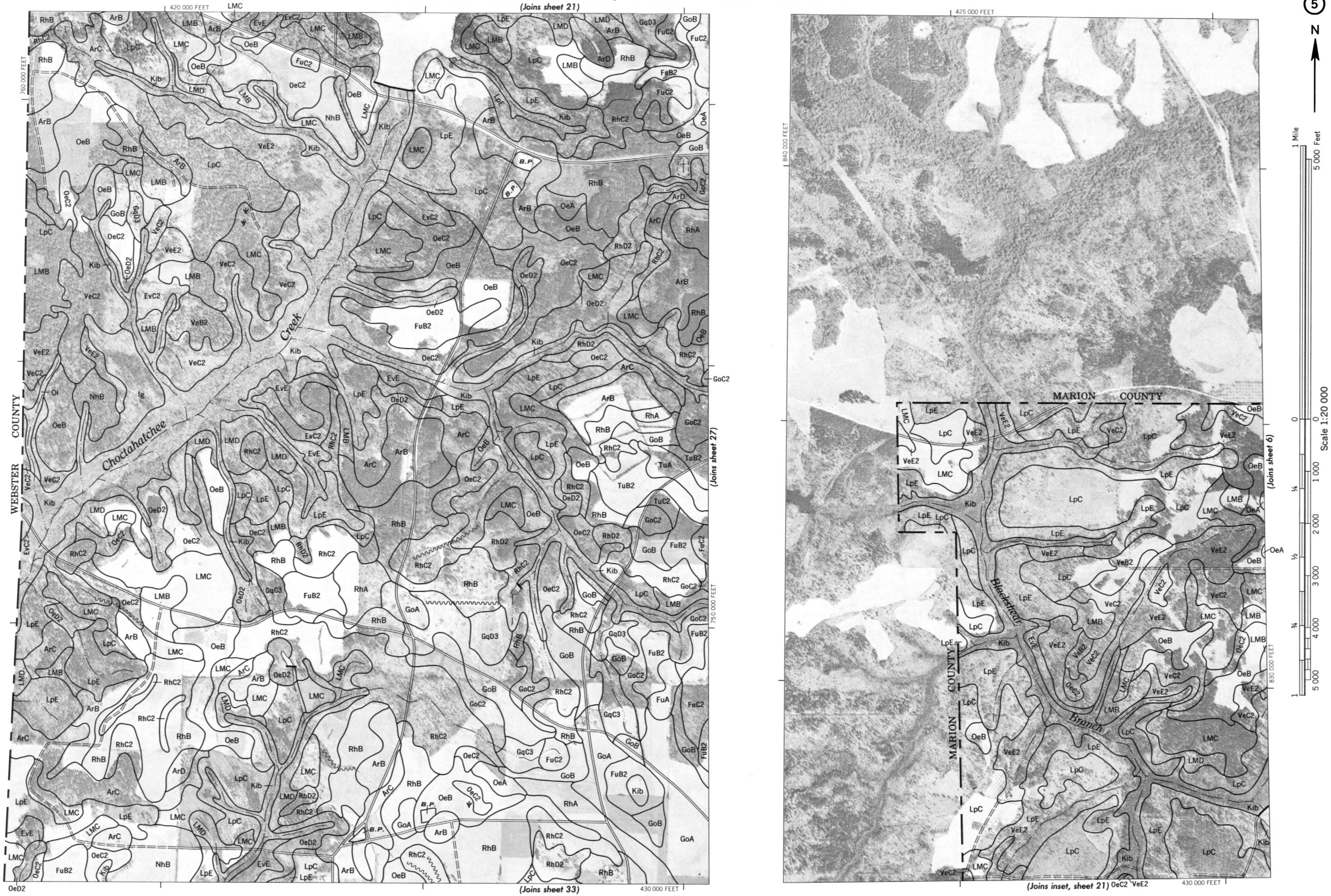


This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 3

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 4

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

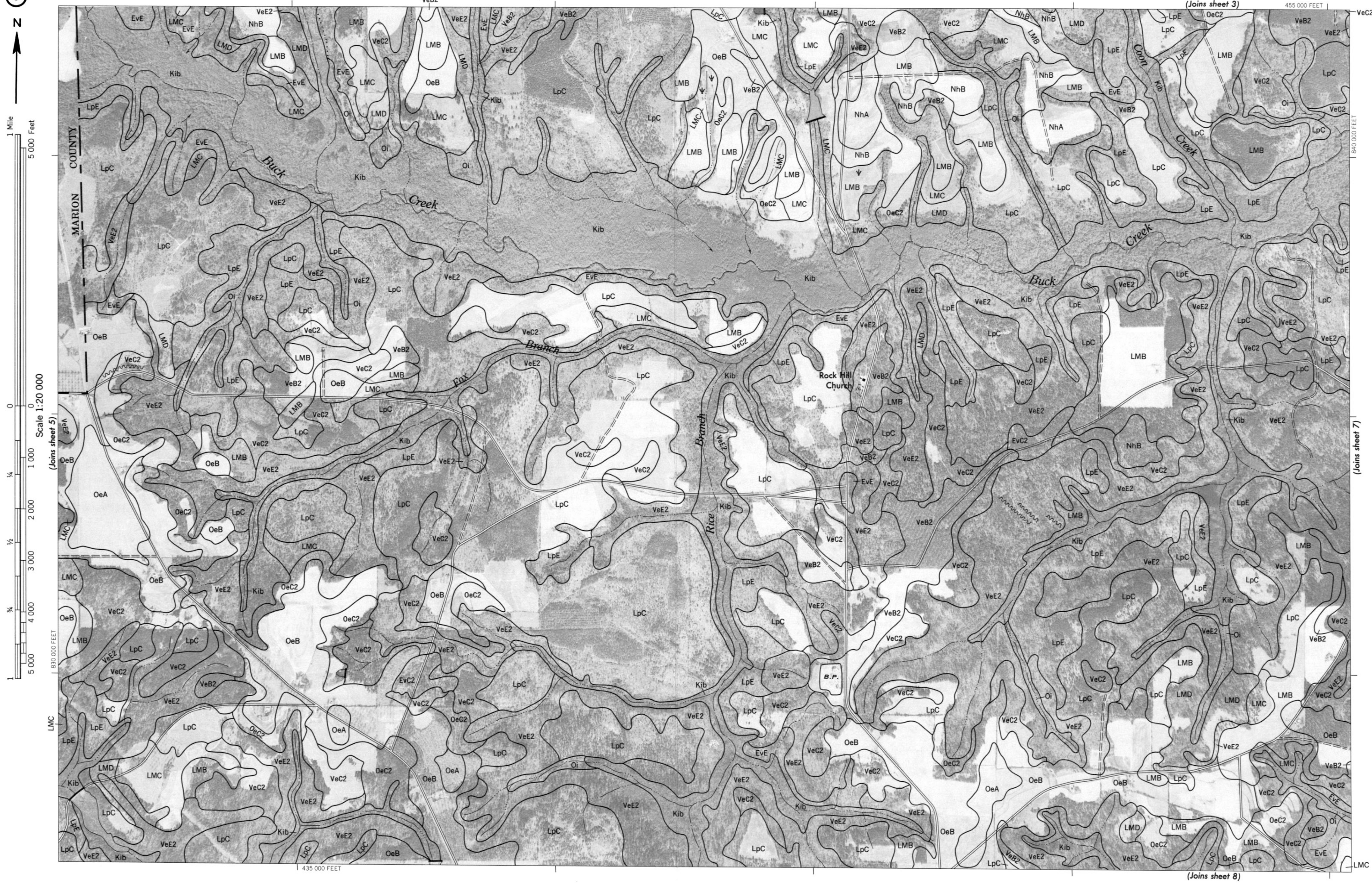


SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 5

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

6

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 6

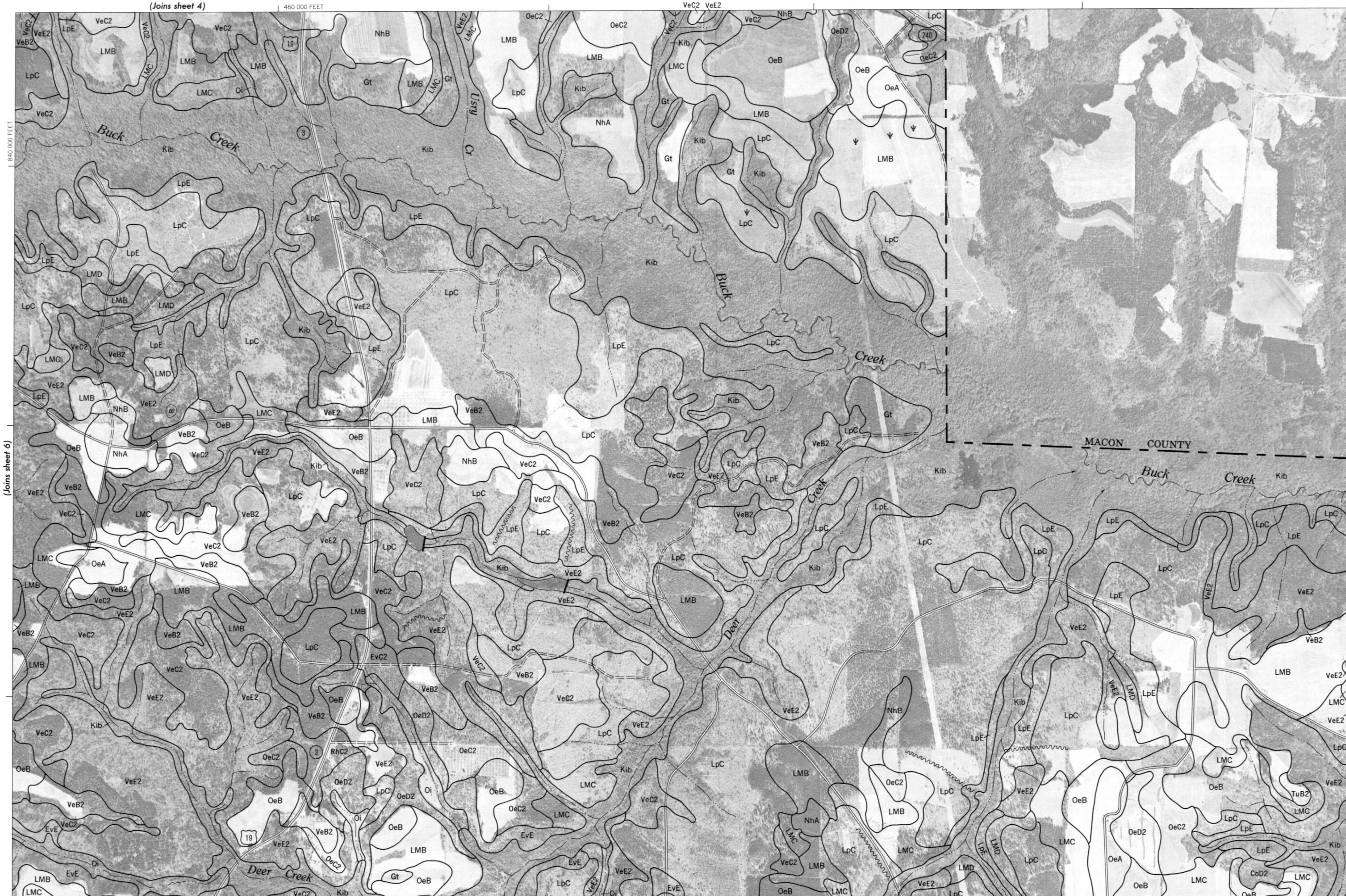


Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

7

(Joins sheet 4)



(Joins sheet 6)

(Joins inset A, sheet 10)

(Joins sheet 9)

N

Scale 1:20 000

1 Mile ½ ¼ 0

5 000 Feet 4 000 3 000 2 000 1 000 0

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 7

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

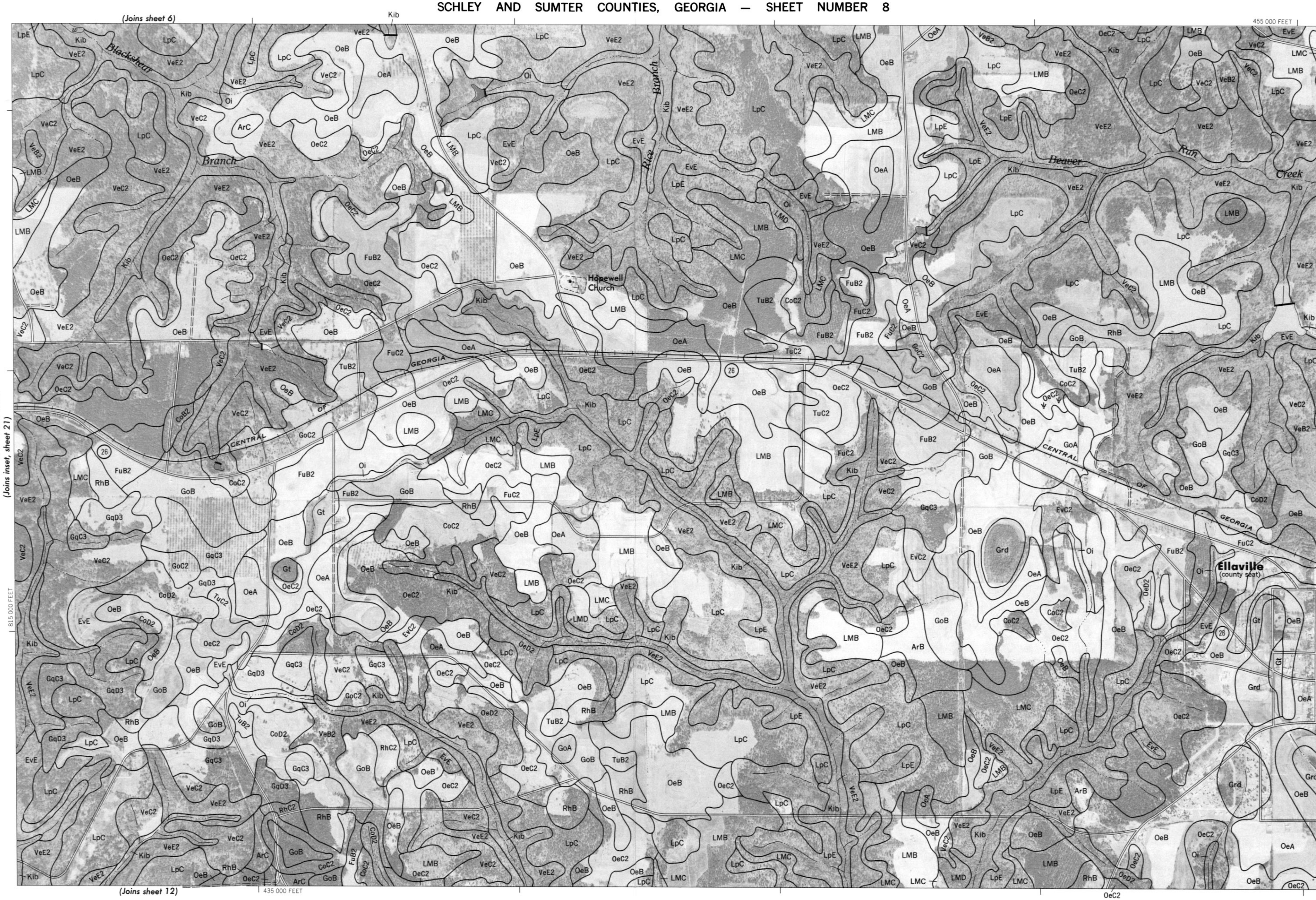
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 8

N

Scale 1:20 000

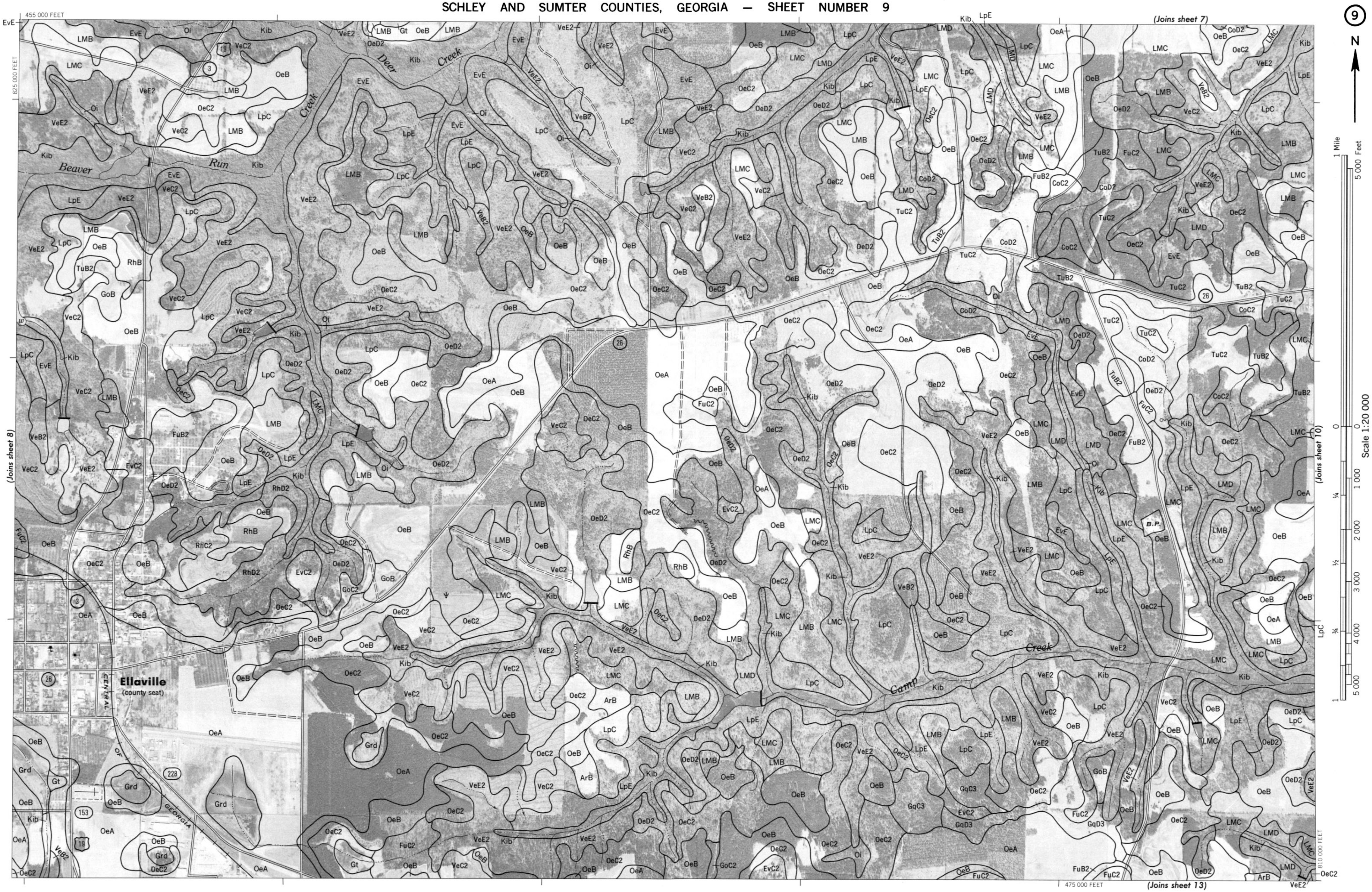
1 Mile — ¾ — ½ — ¼ — 0

5 000 Feet — 4 000 — 3 000 — 2 000 — 1 000 — 0 — 5 000



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

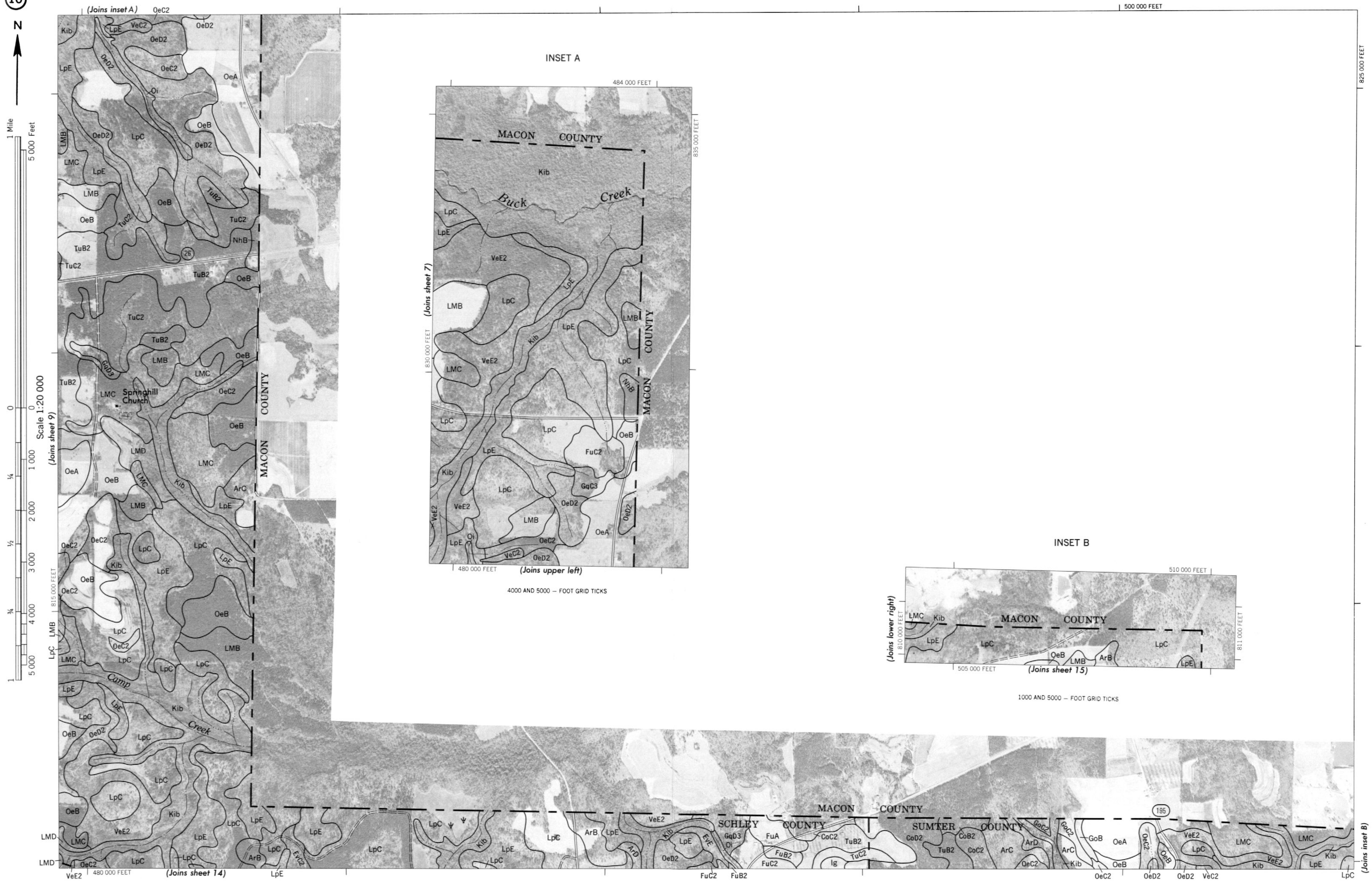
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 9

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 10

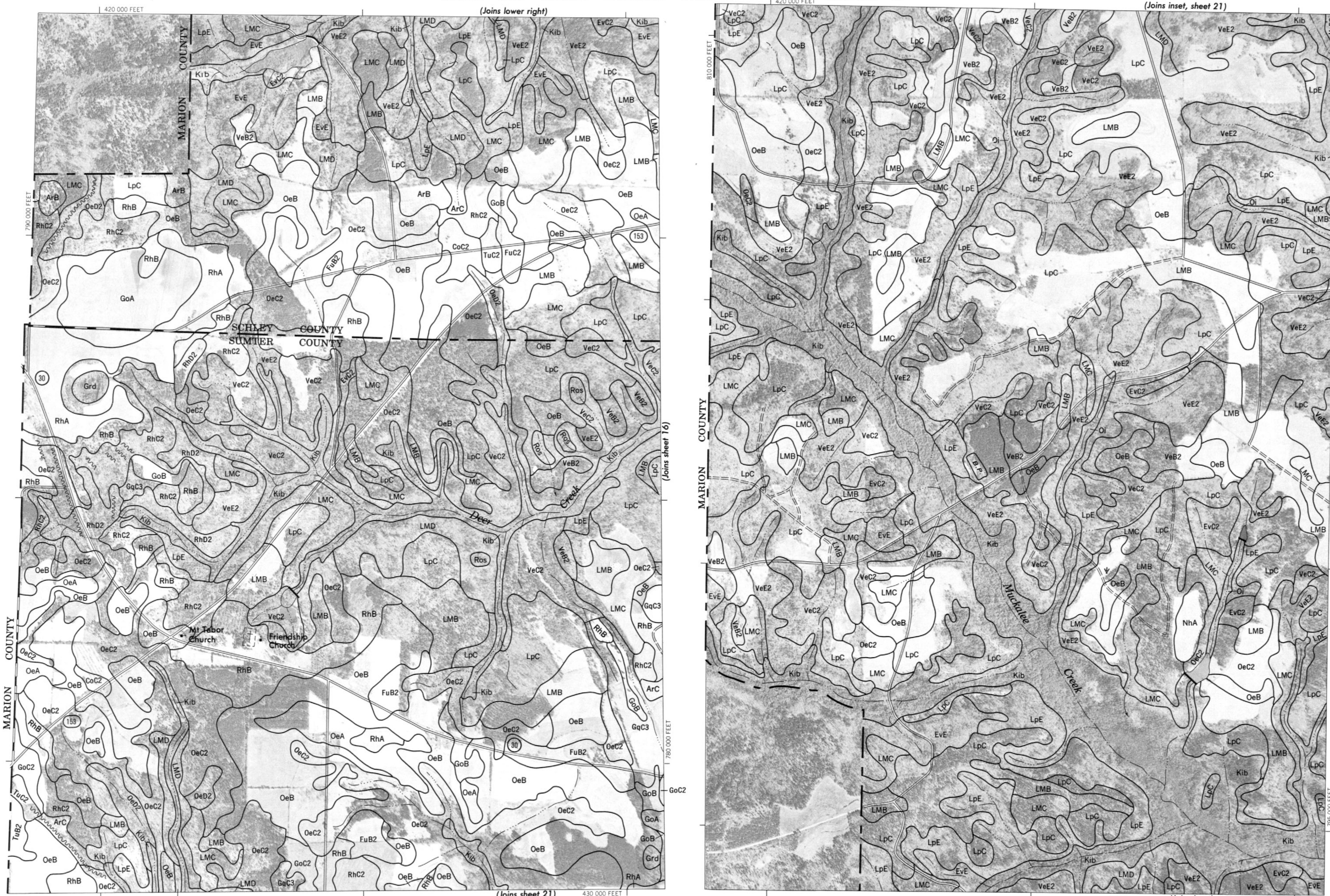


Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 11

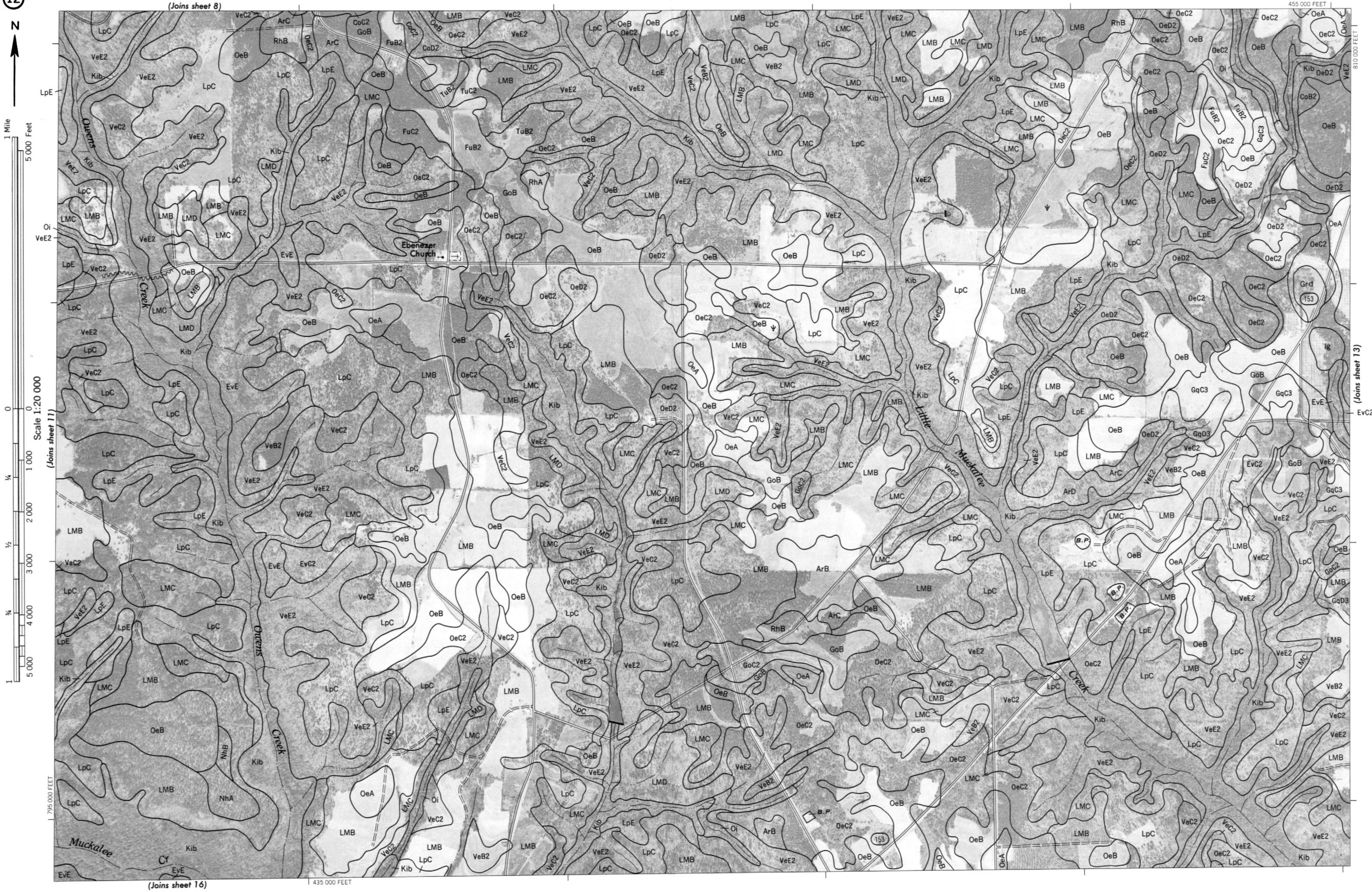
11



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 11

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 12



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

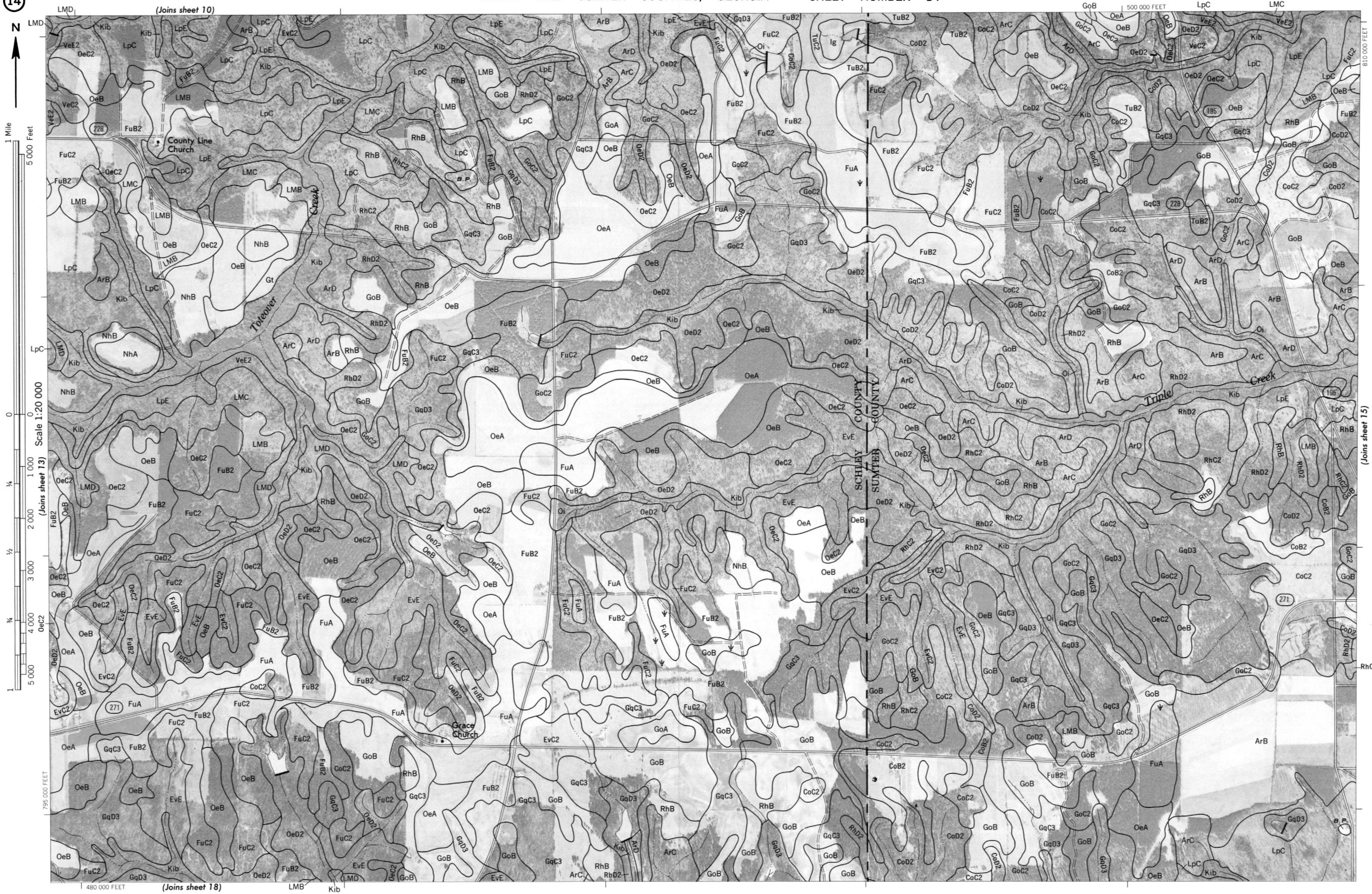
SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 12

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 13

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

14

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 14

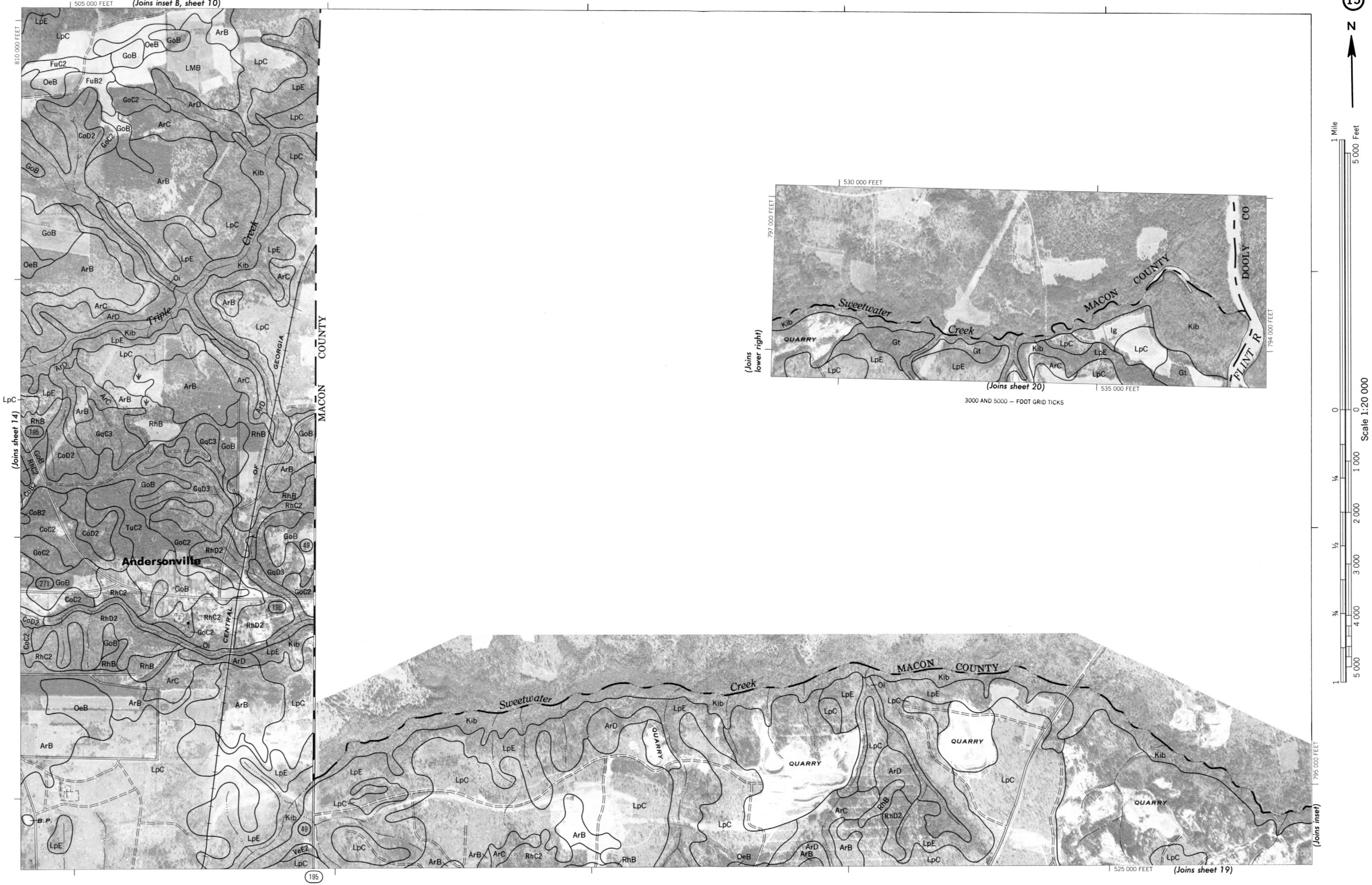


Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 14

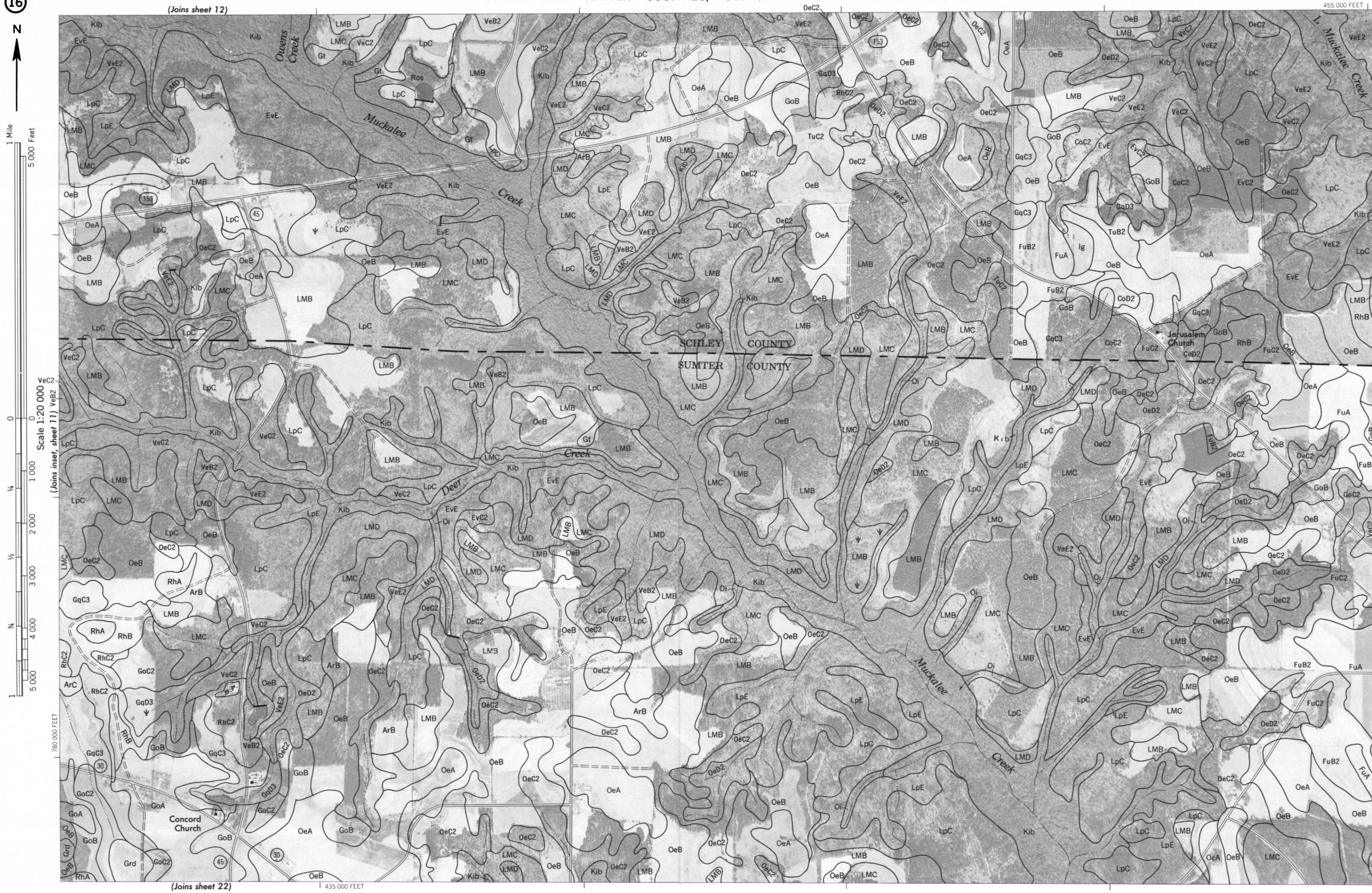
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 15



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 15

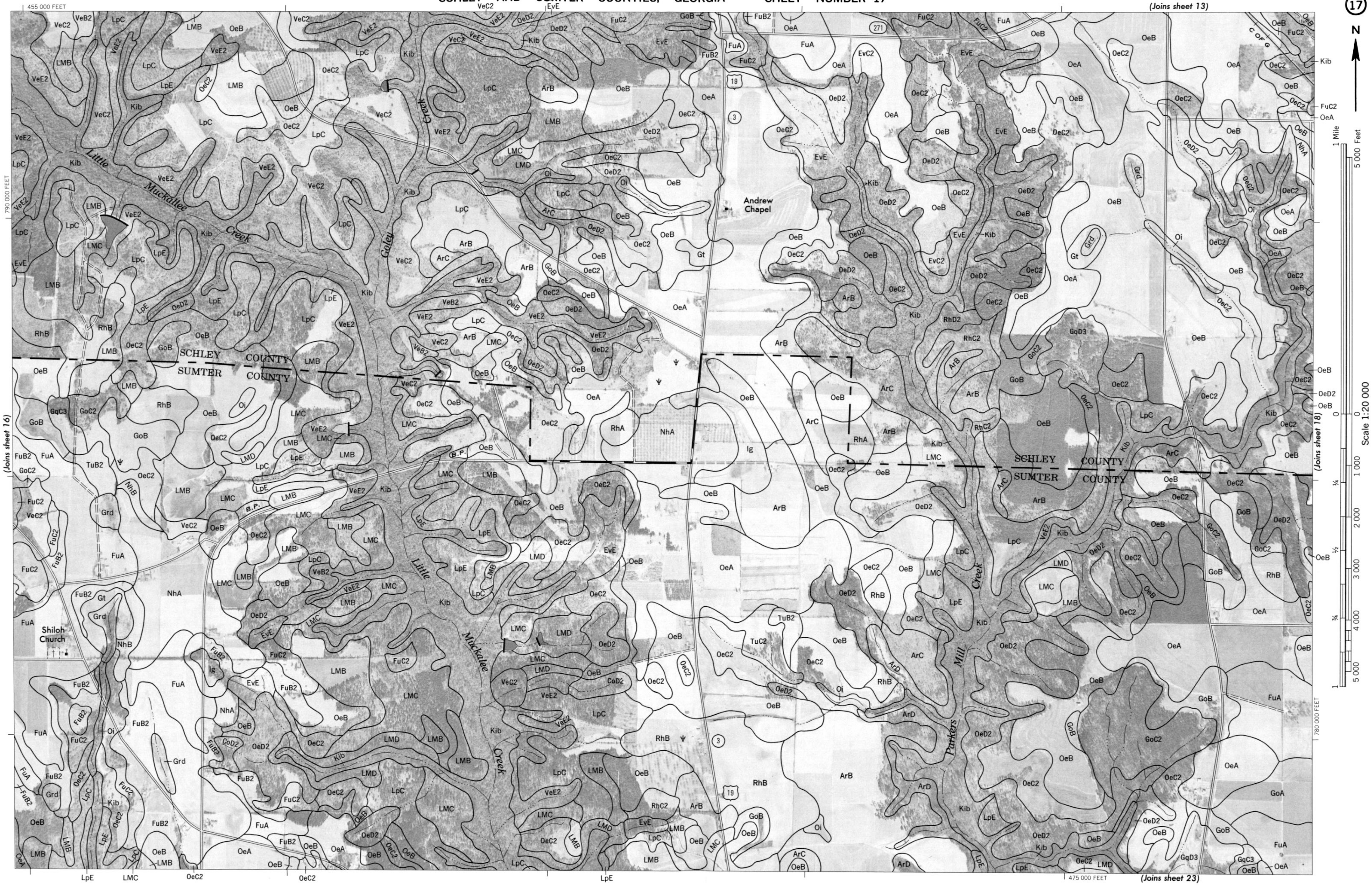
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 16



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

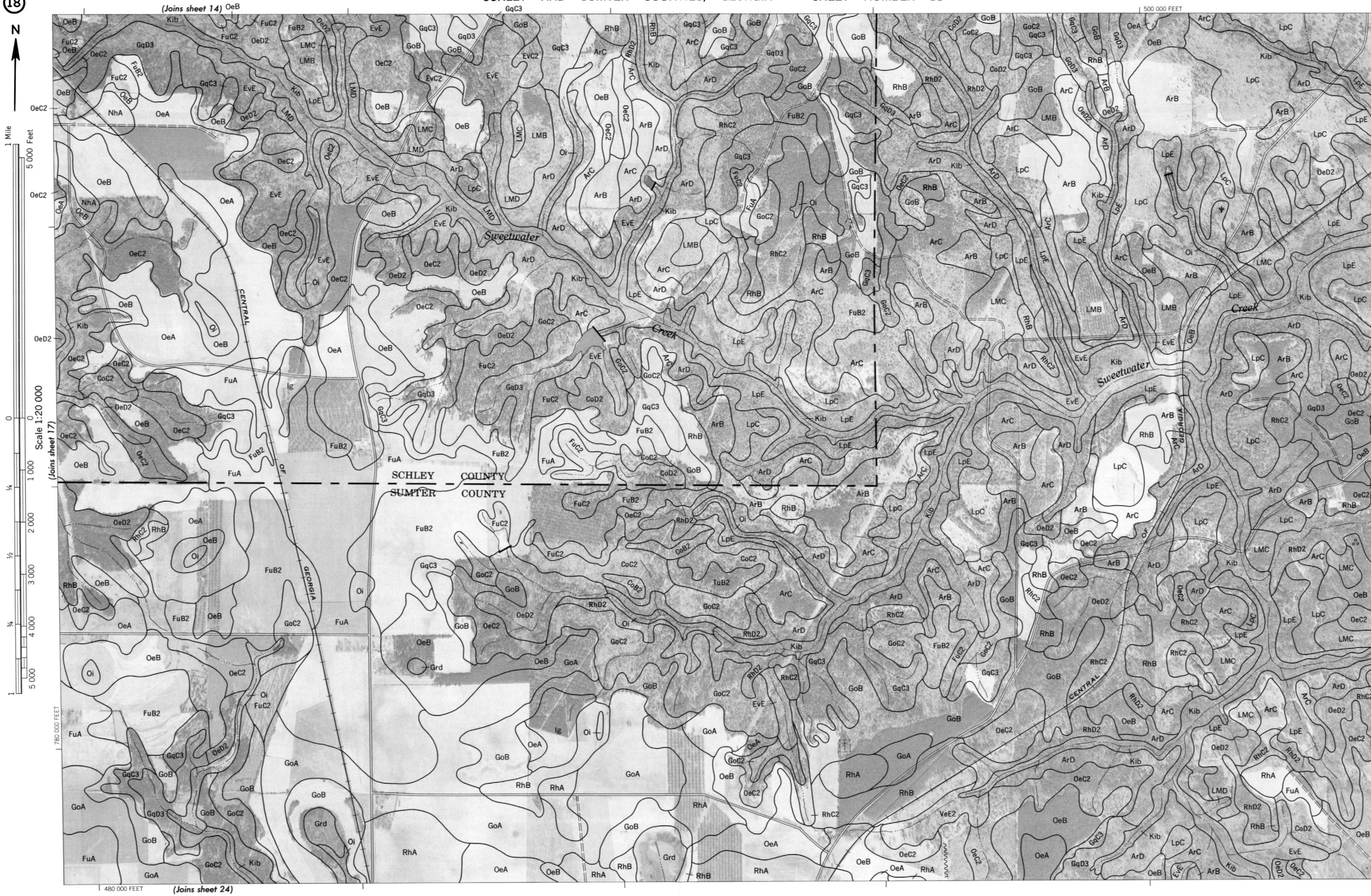
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 17

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 18

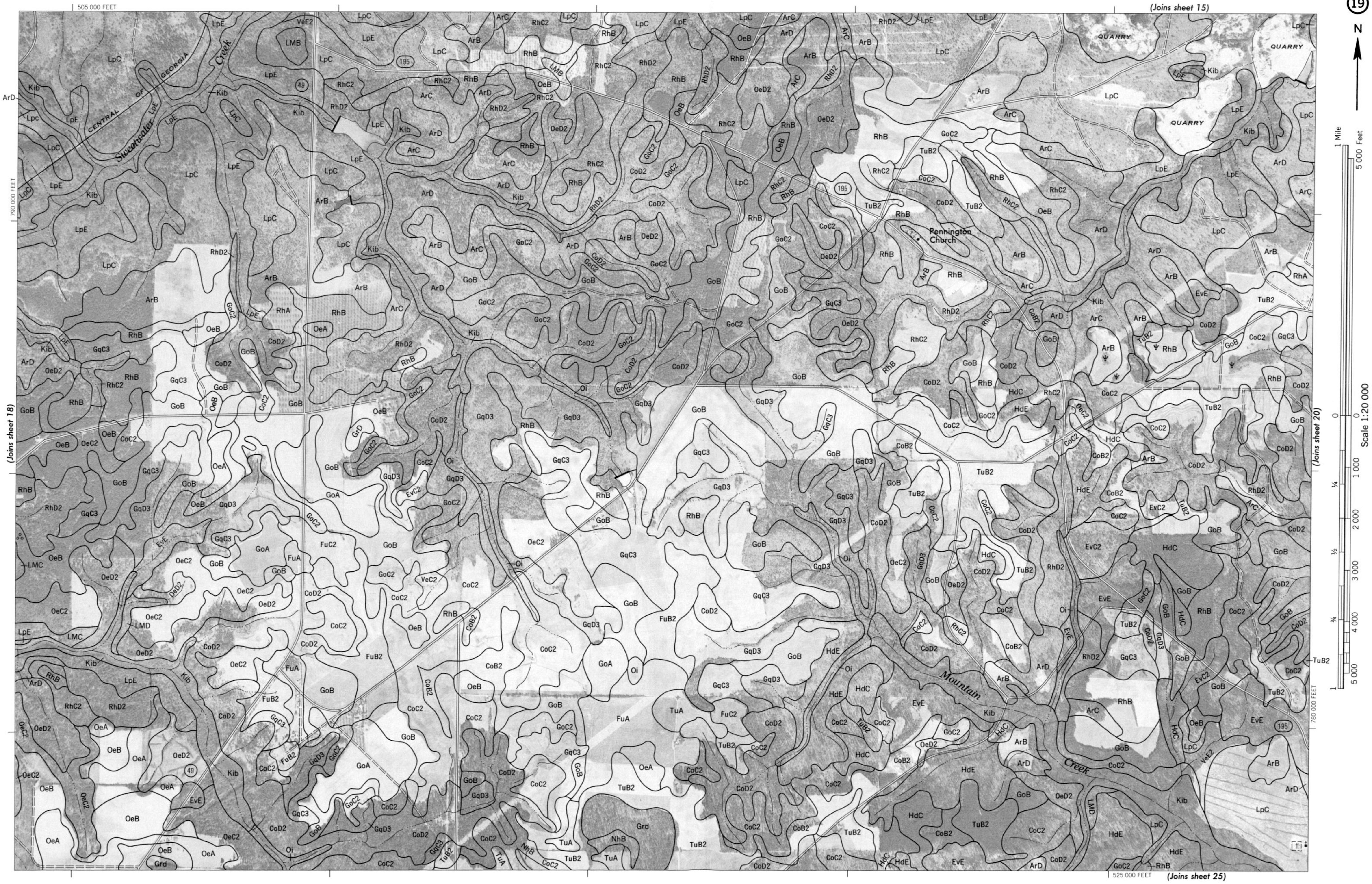


Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 18

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 19



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 19

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 20

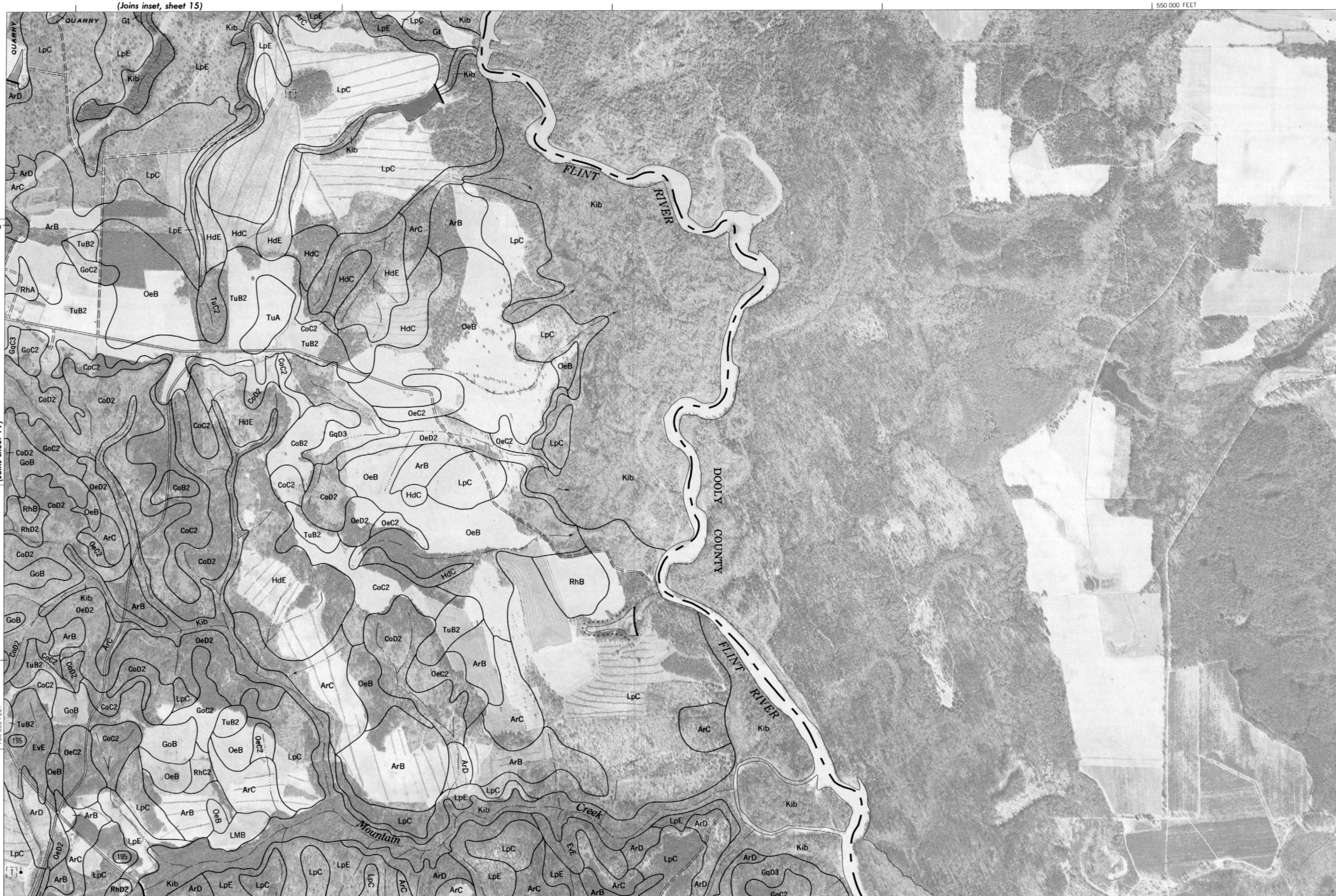
N

1 Mile 5 000 Feet

Scale 1:20 000

0 1 000 2 000 3 000 4 000 5 000

0 ¼ ½ ¾ 1



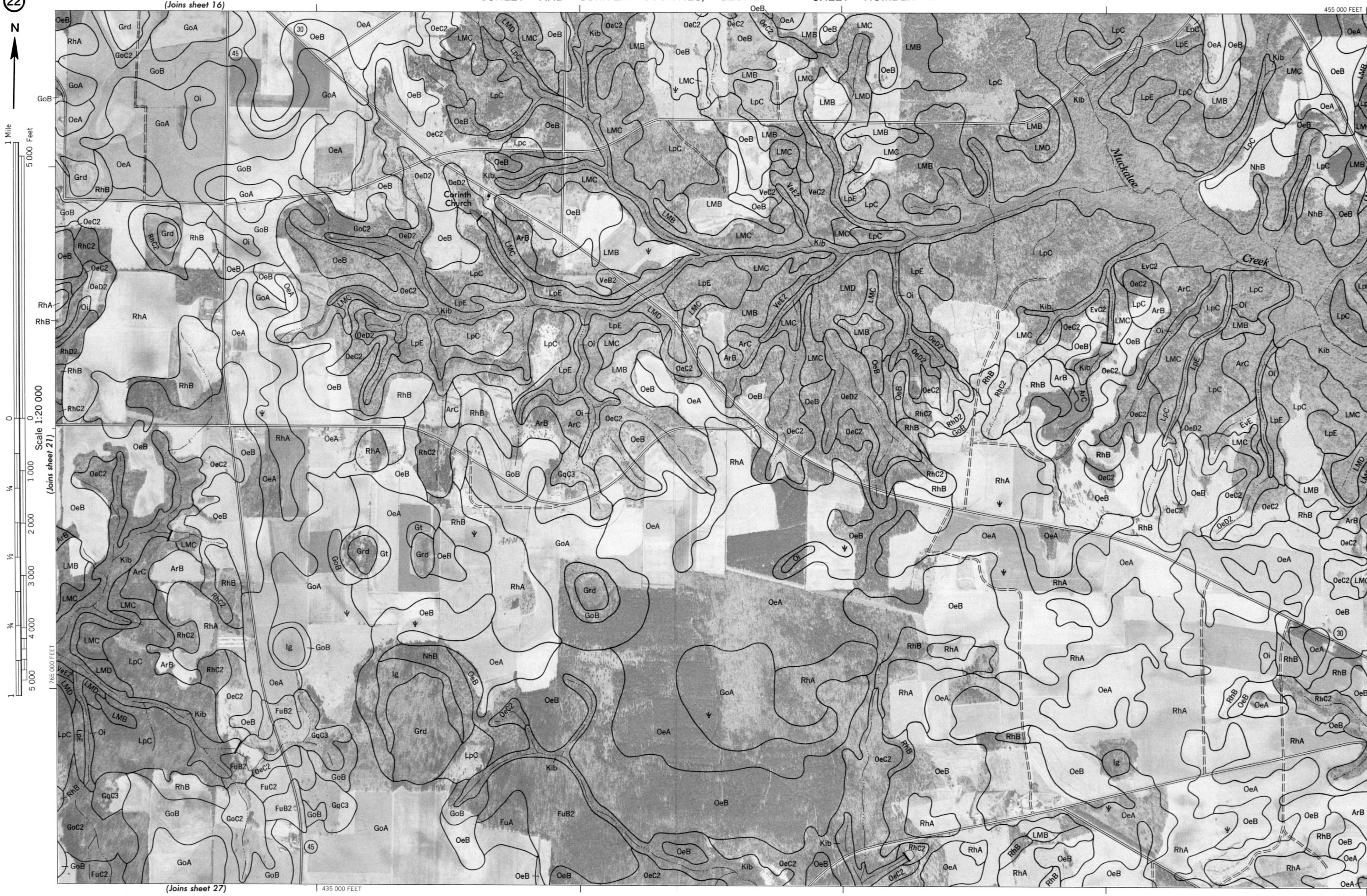
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 21

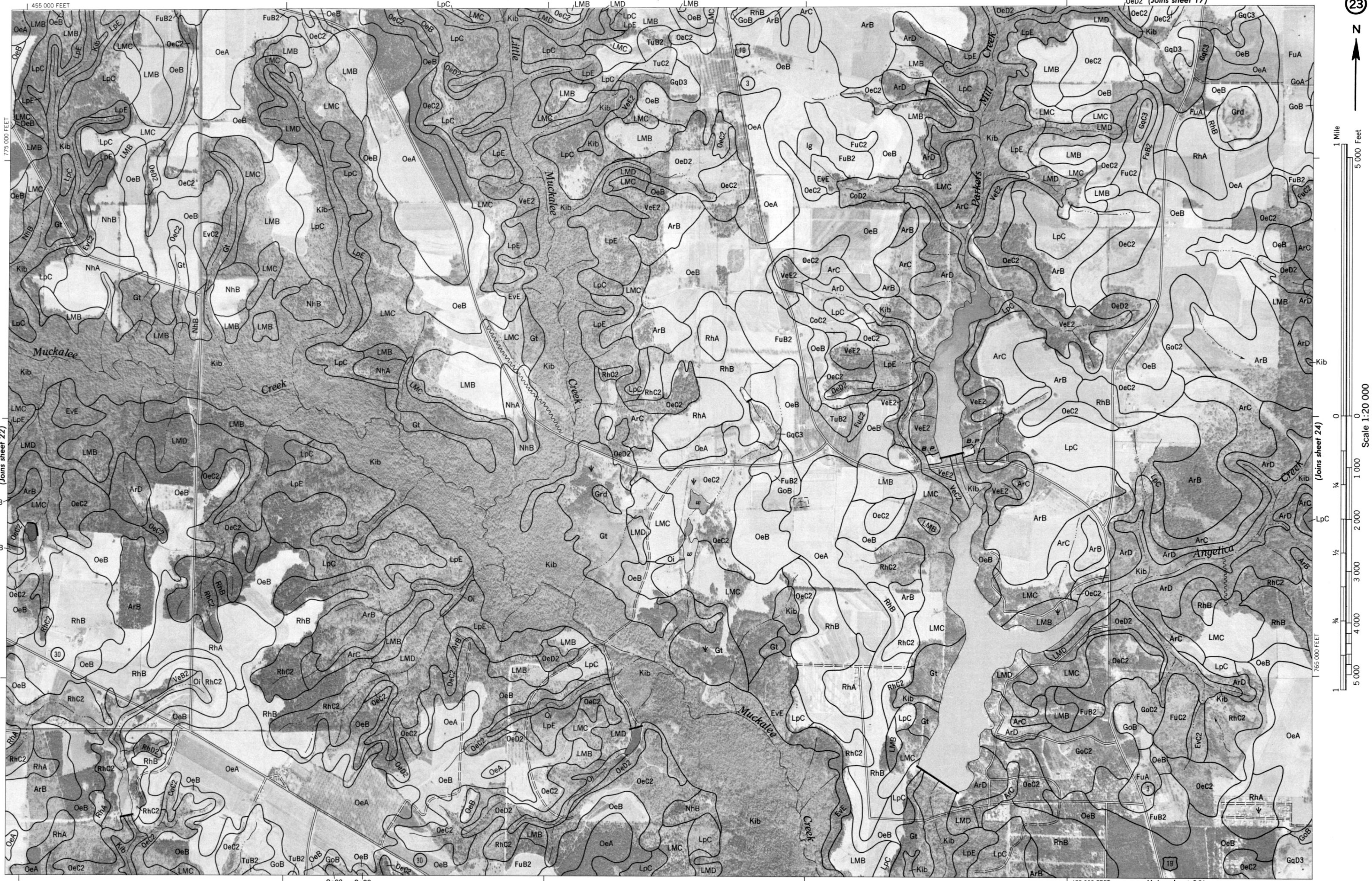
SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 21

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

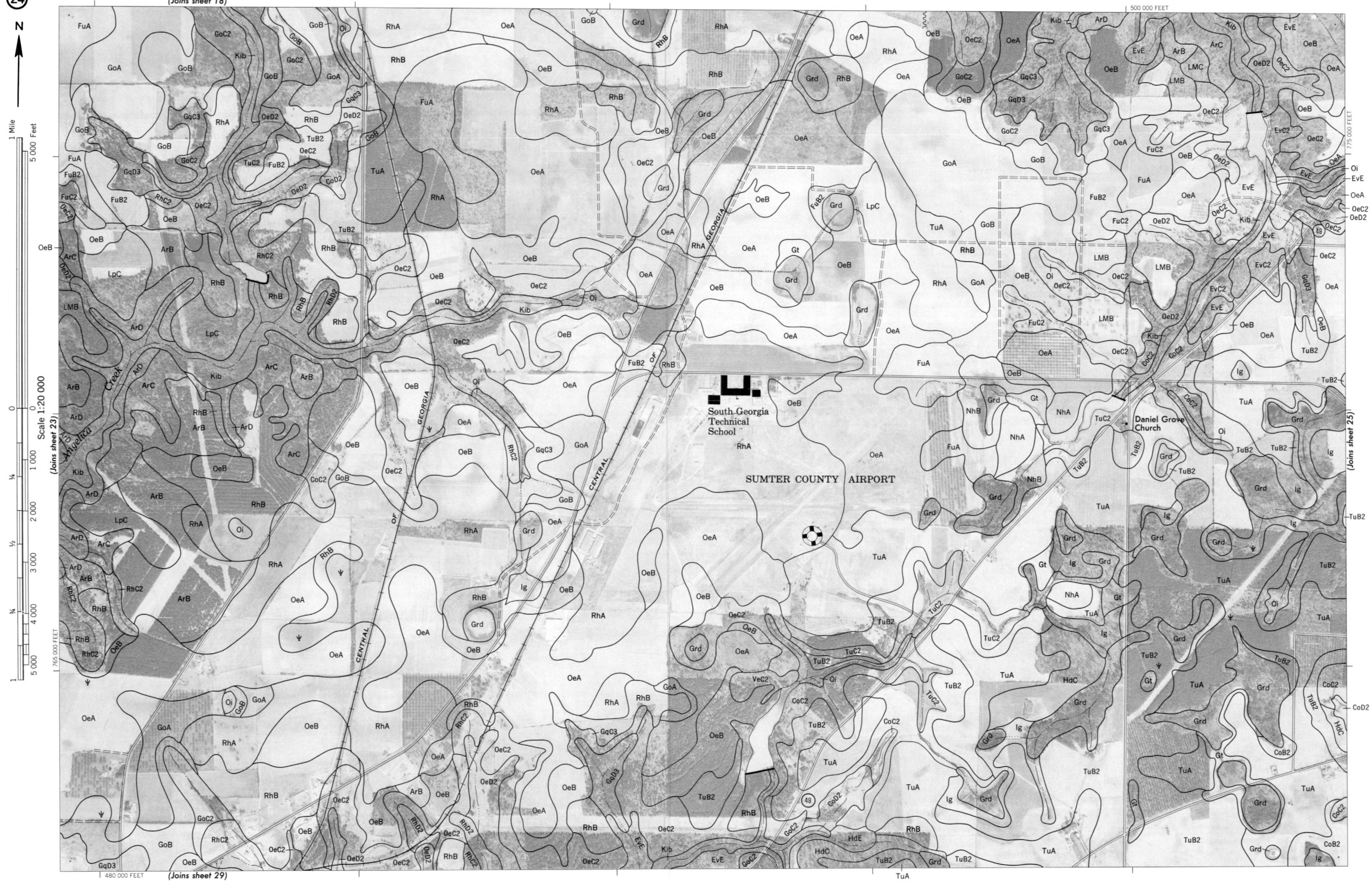


SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 23

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

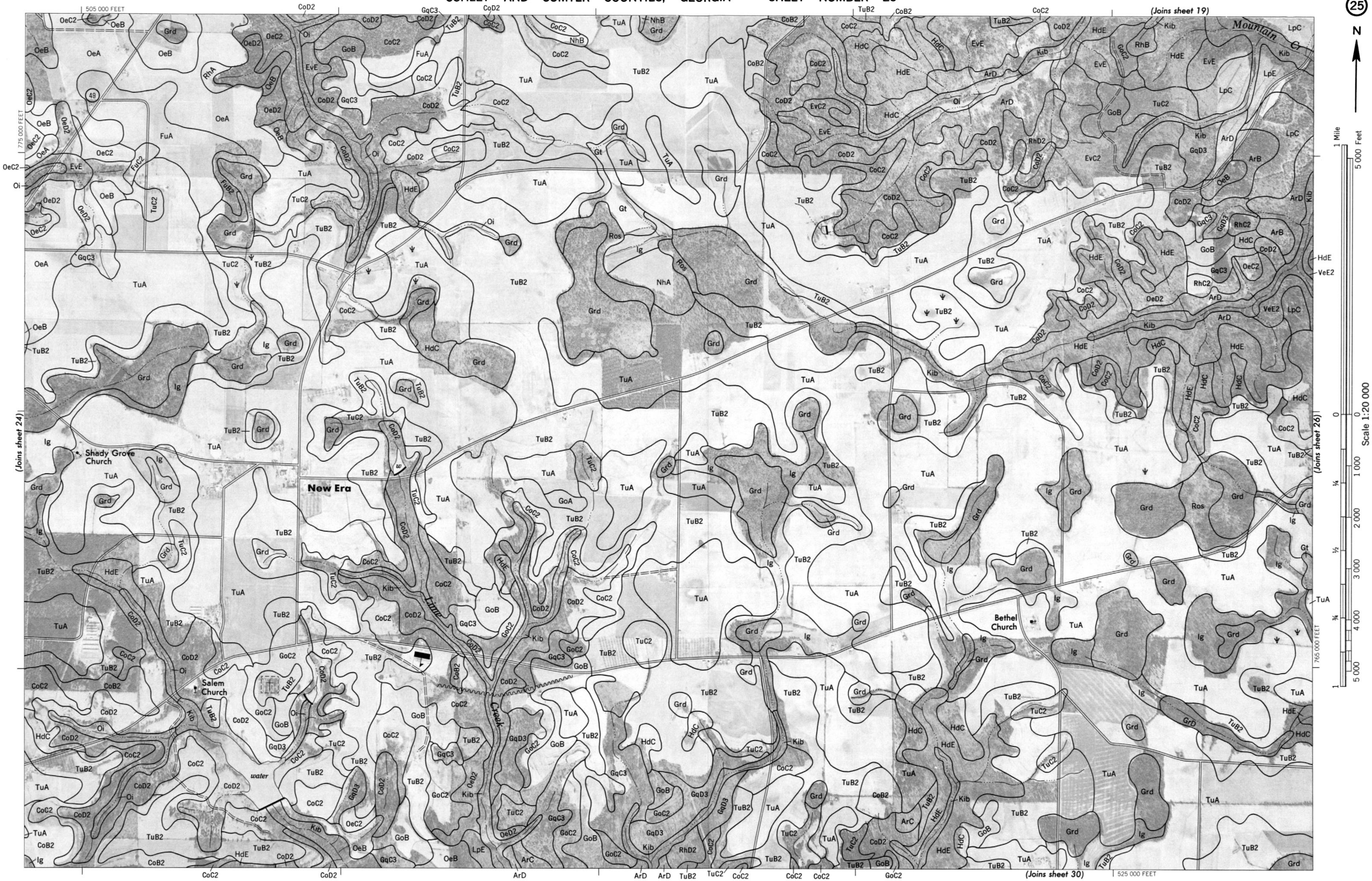
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 24



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 25



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 25

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 26

(Joins sheet 20)

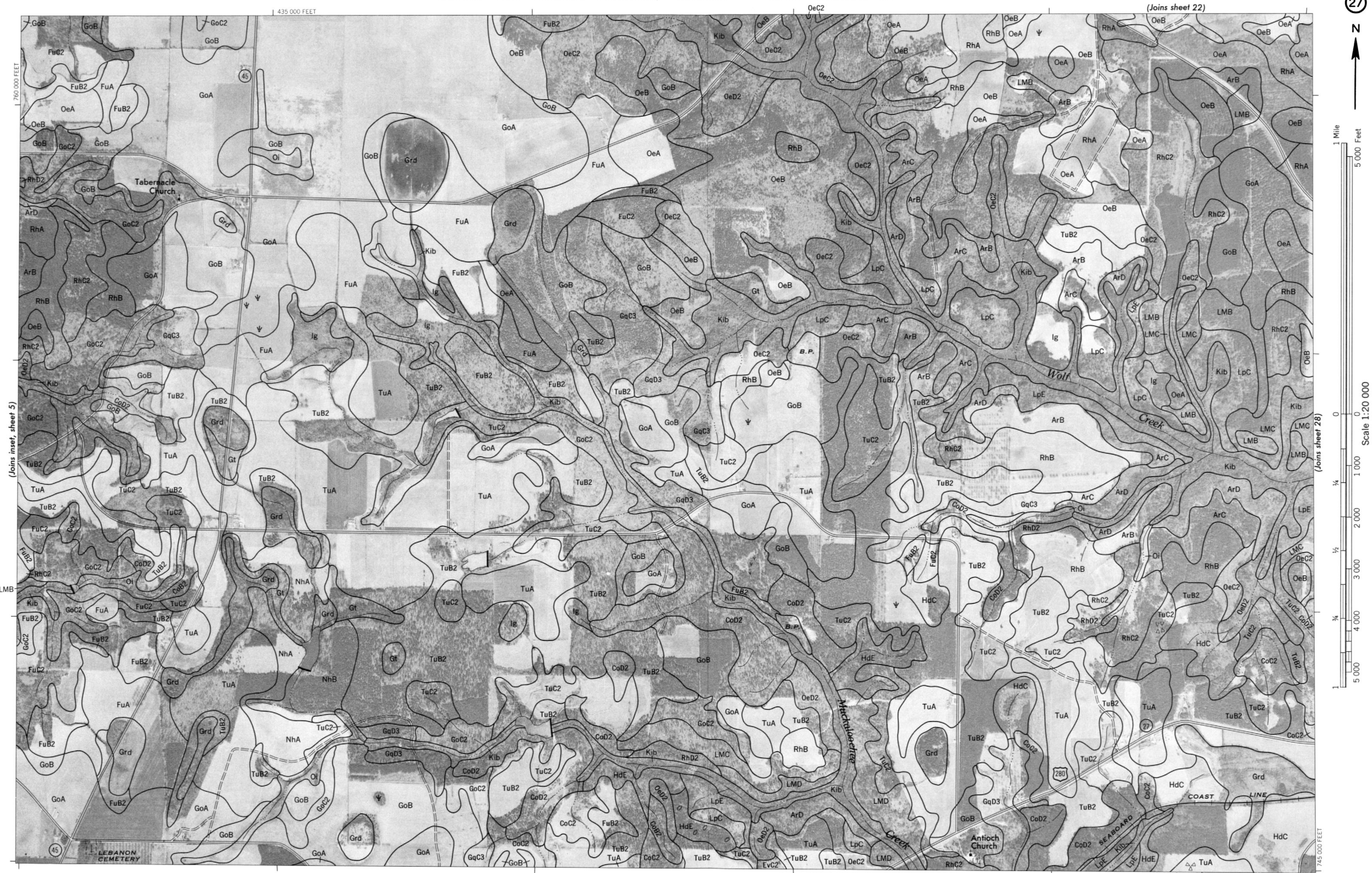
(Joins sheet 25)

(Joins inset, sheet 32)

(Joins sheet 31)

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 27

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

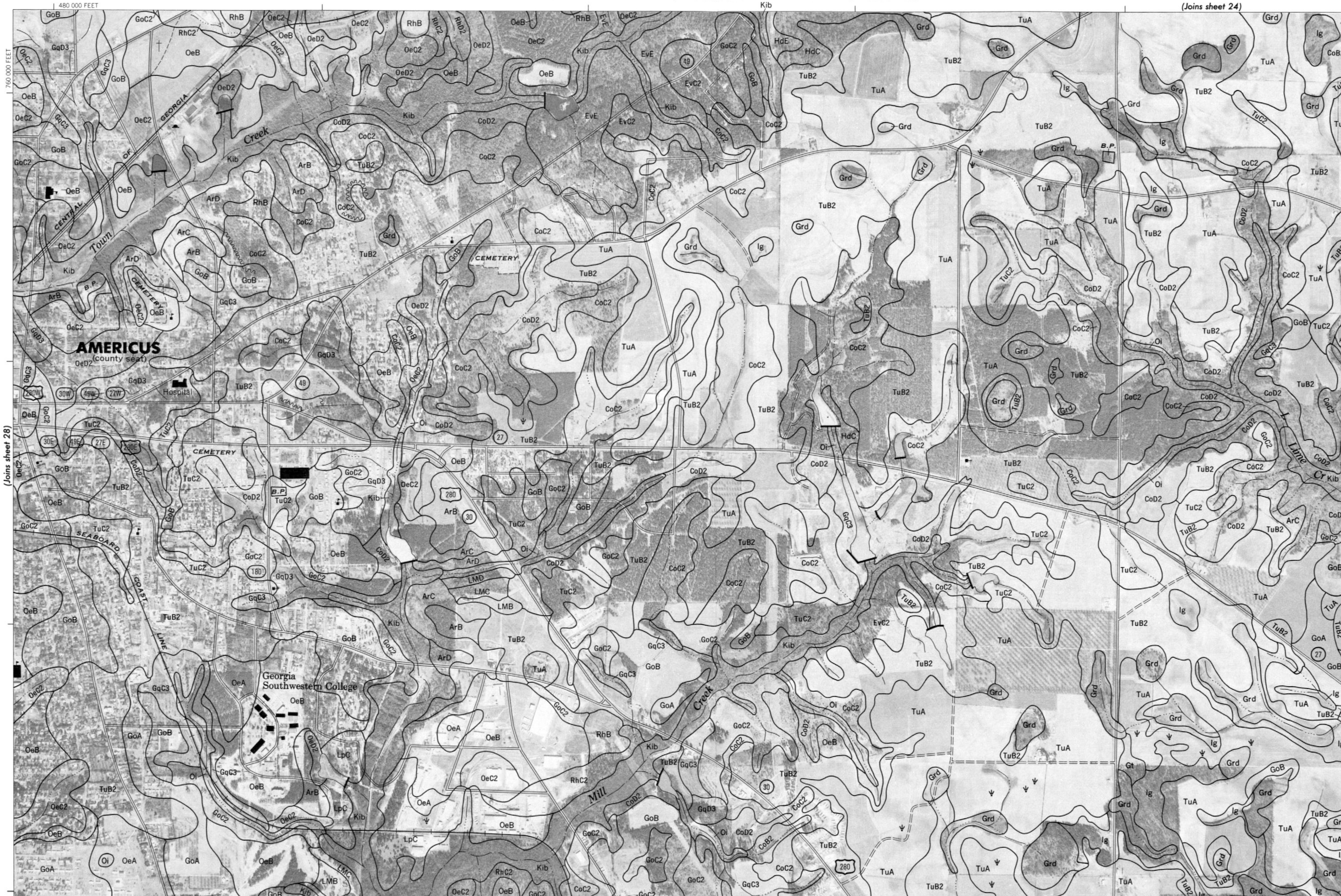
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 28

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

29

N



This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

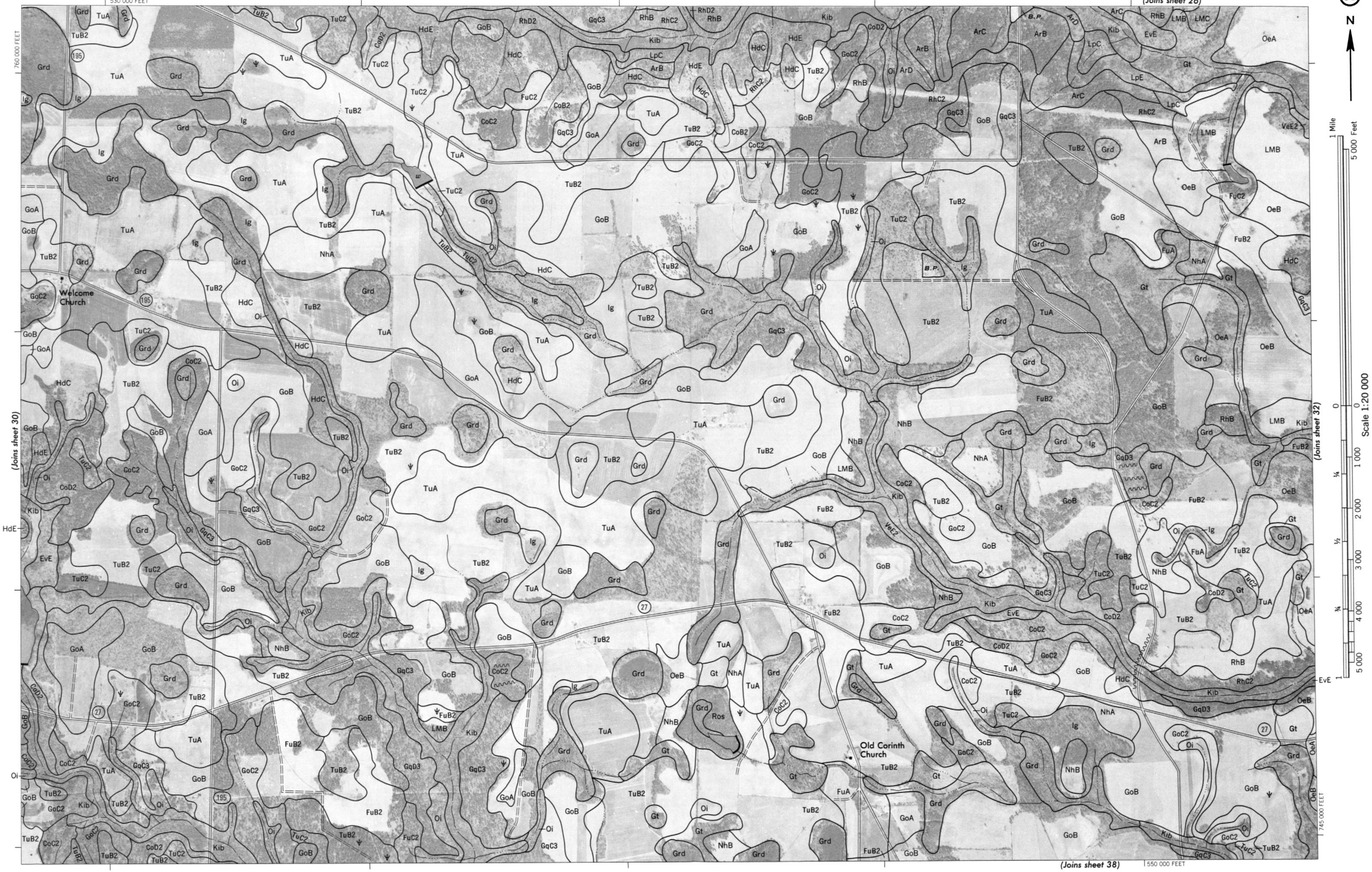
SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 29

1 Mile
5 000 Feet
Scale 1:20 000

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

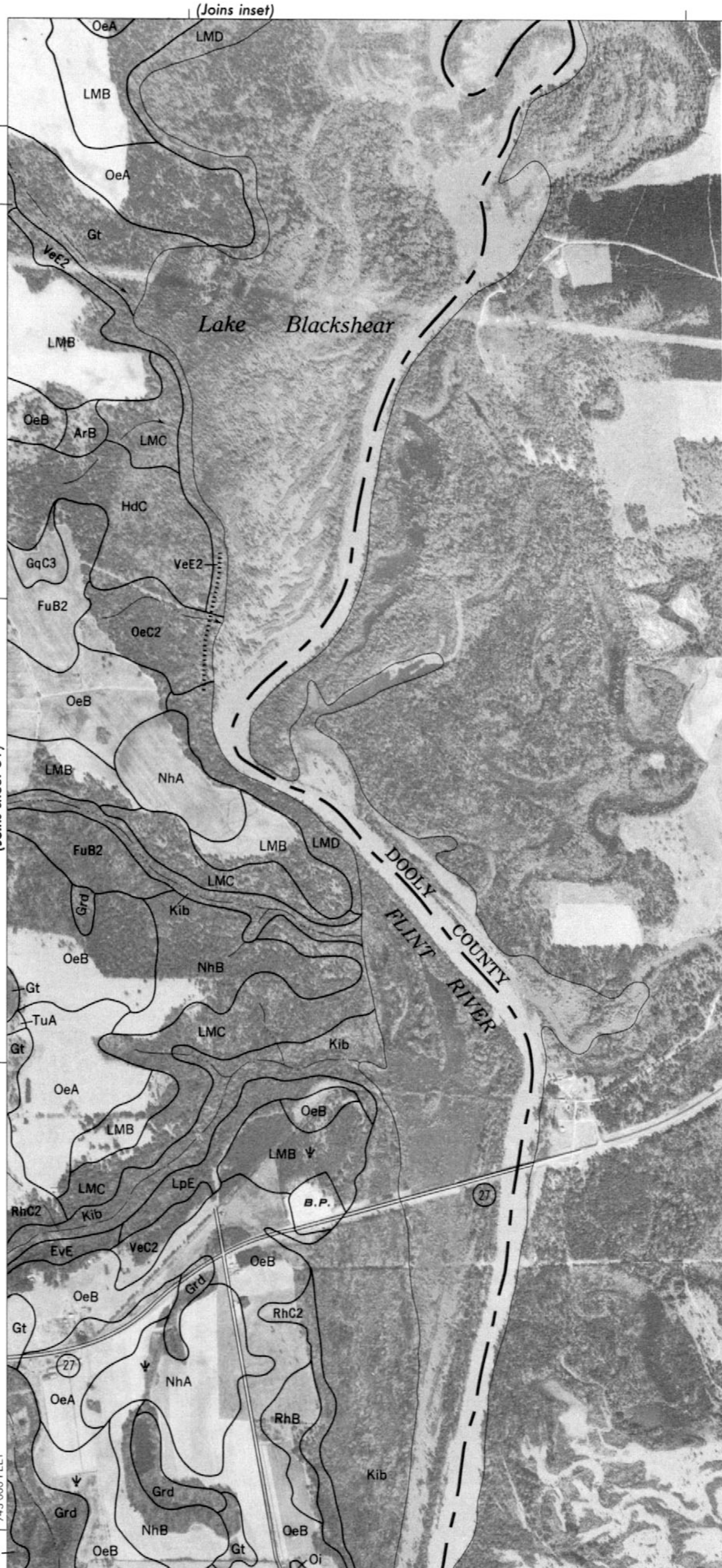
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 31

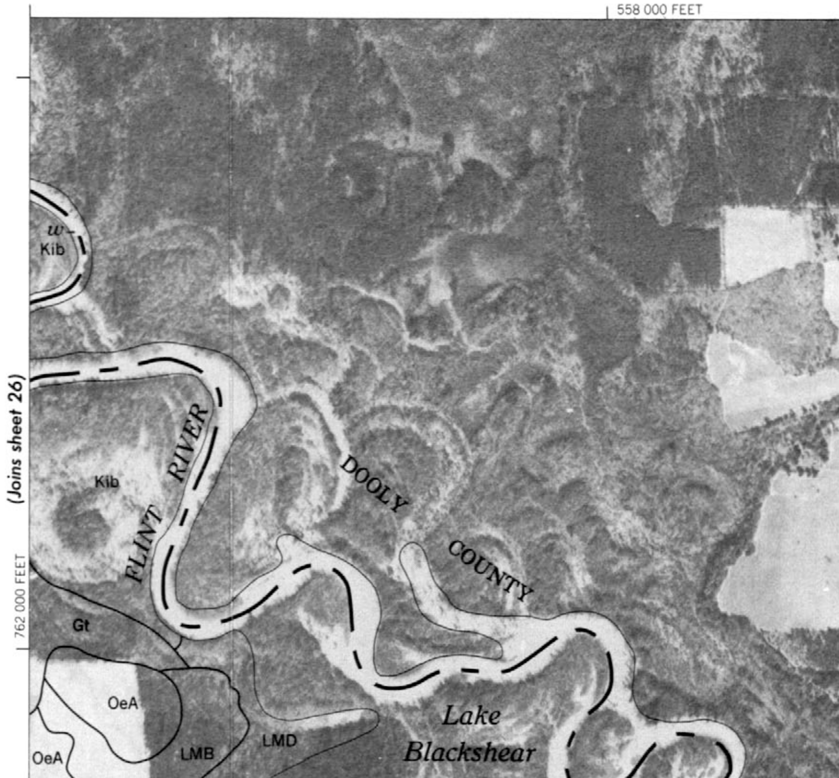


SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 31

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 32





575 000 FEET

760 000 FEET

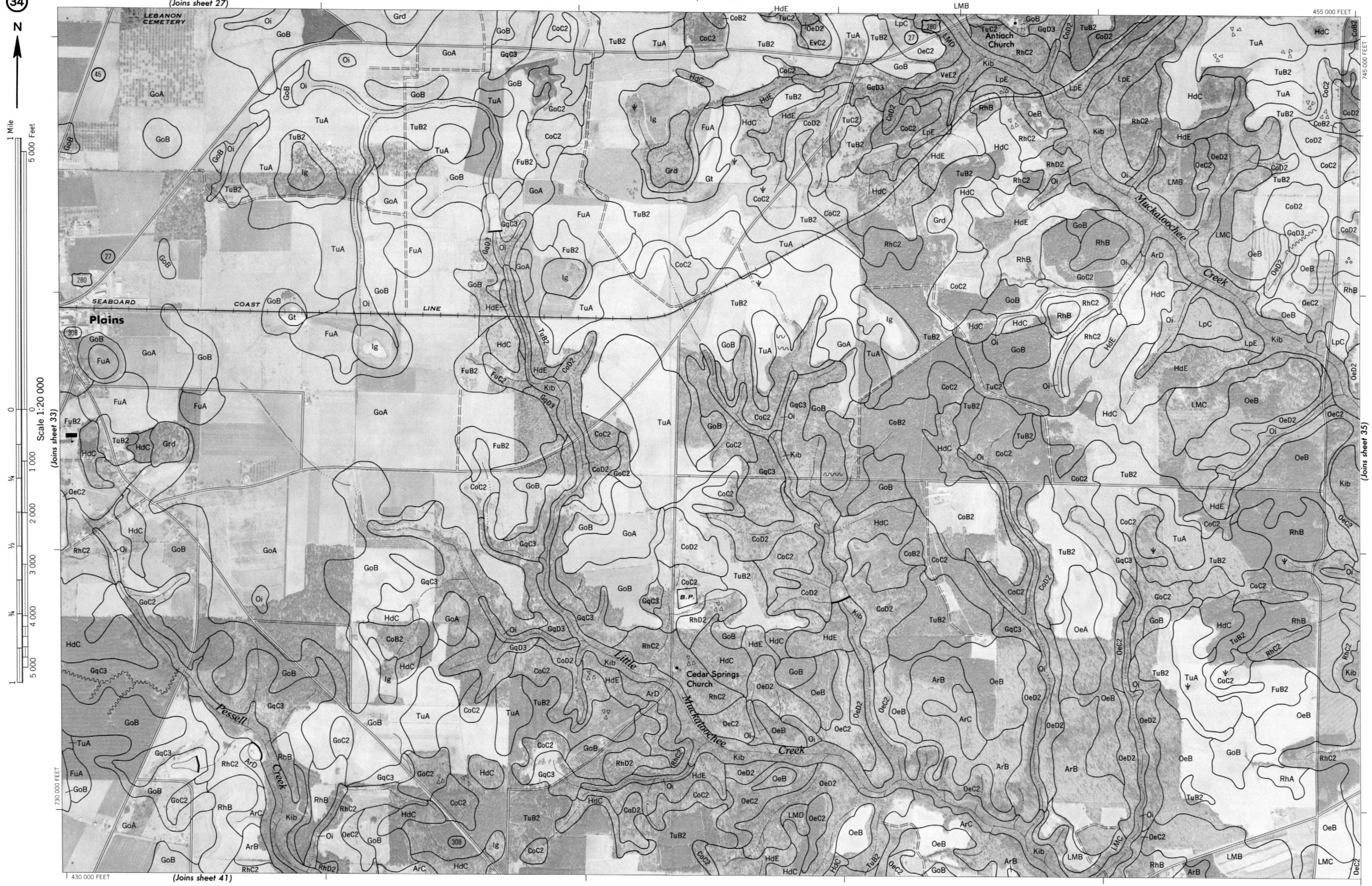
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 32

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

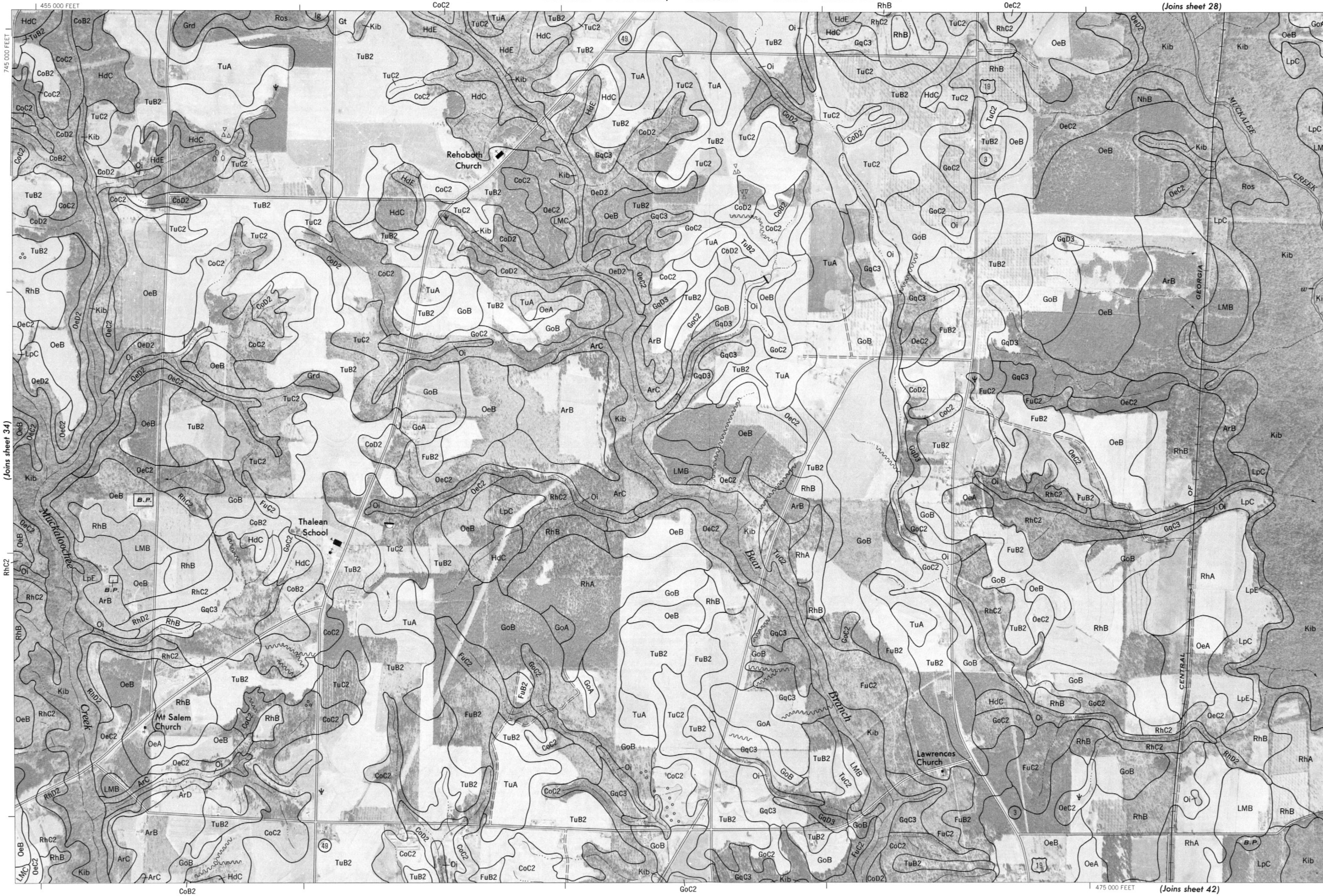
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 34



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 34

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 35



35

N

Scale 1:20 000

1 Mile

5 000 Feet

0 ¼ ½ ¾ 1

0 1000 2000 3000 4000 5000

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 35

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 36

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 37

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 37

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 38

(Joins sheet 31)

(Joins sheet 37)

(Joins sheet 39)

(Joins sheet 45)

N

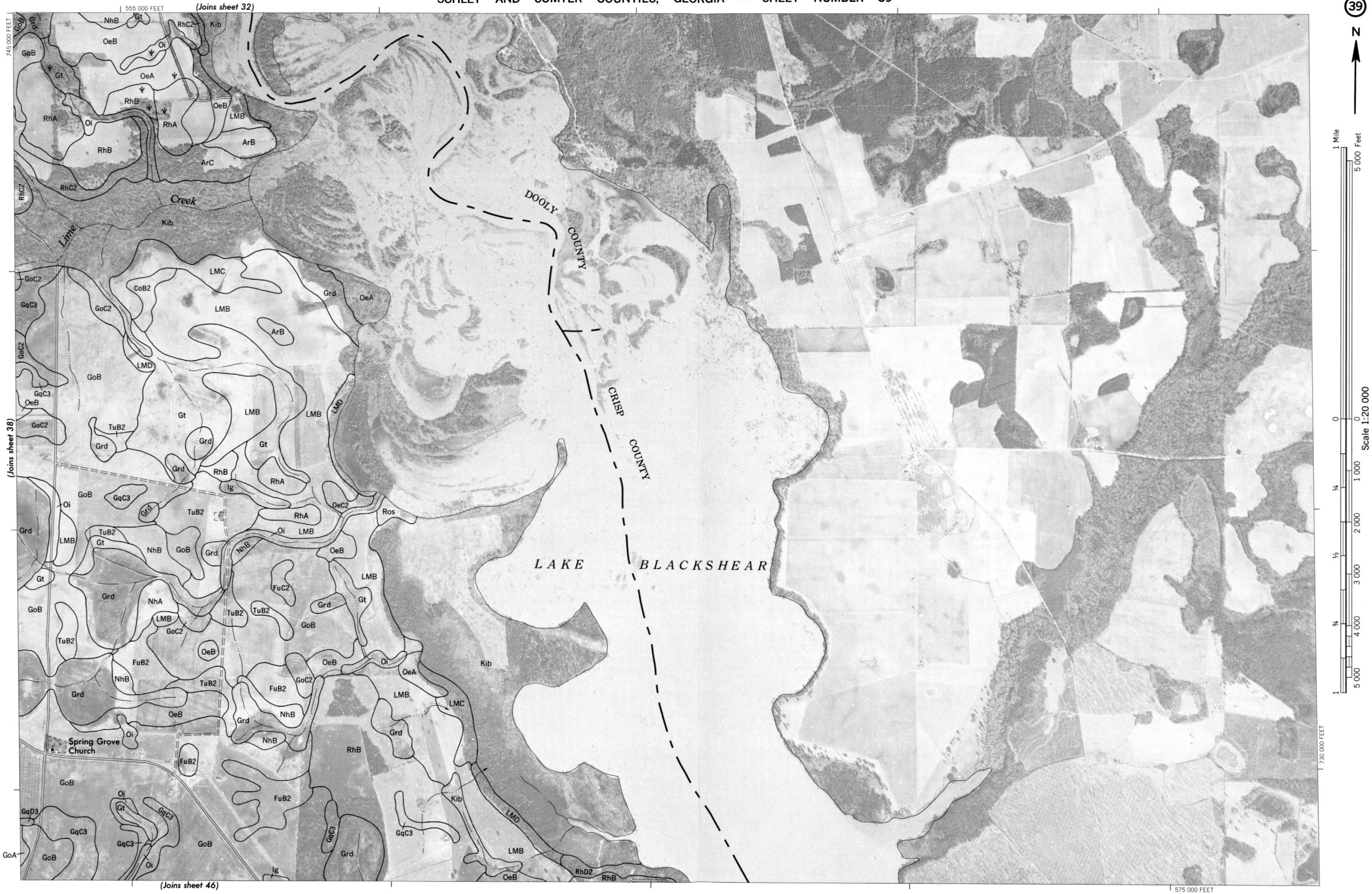
1 Mile

5 000 Feet

Scale 1:20 000

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 39

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 40

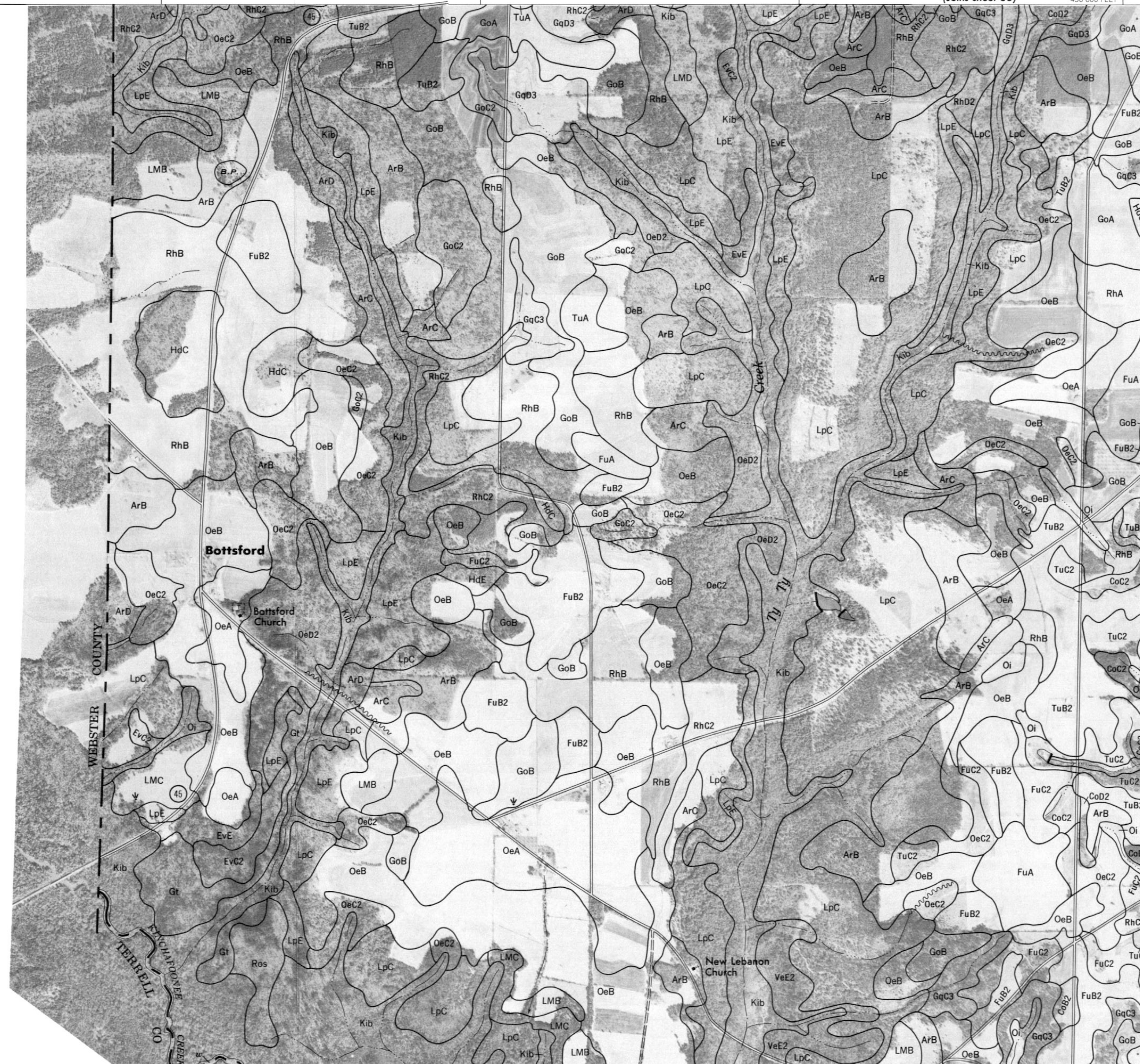
N

1 Mile 5 000 Feet

Scale 1:20 000

0 ¼ ½ ¾ 1

0 1 000 2 000 3 000 4 000 5 000



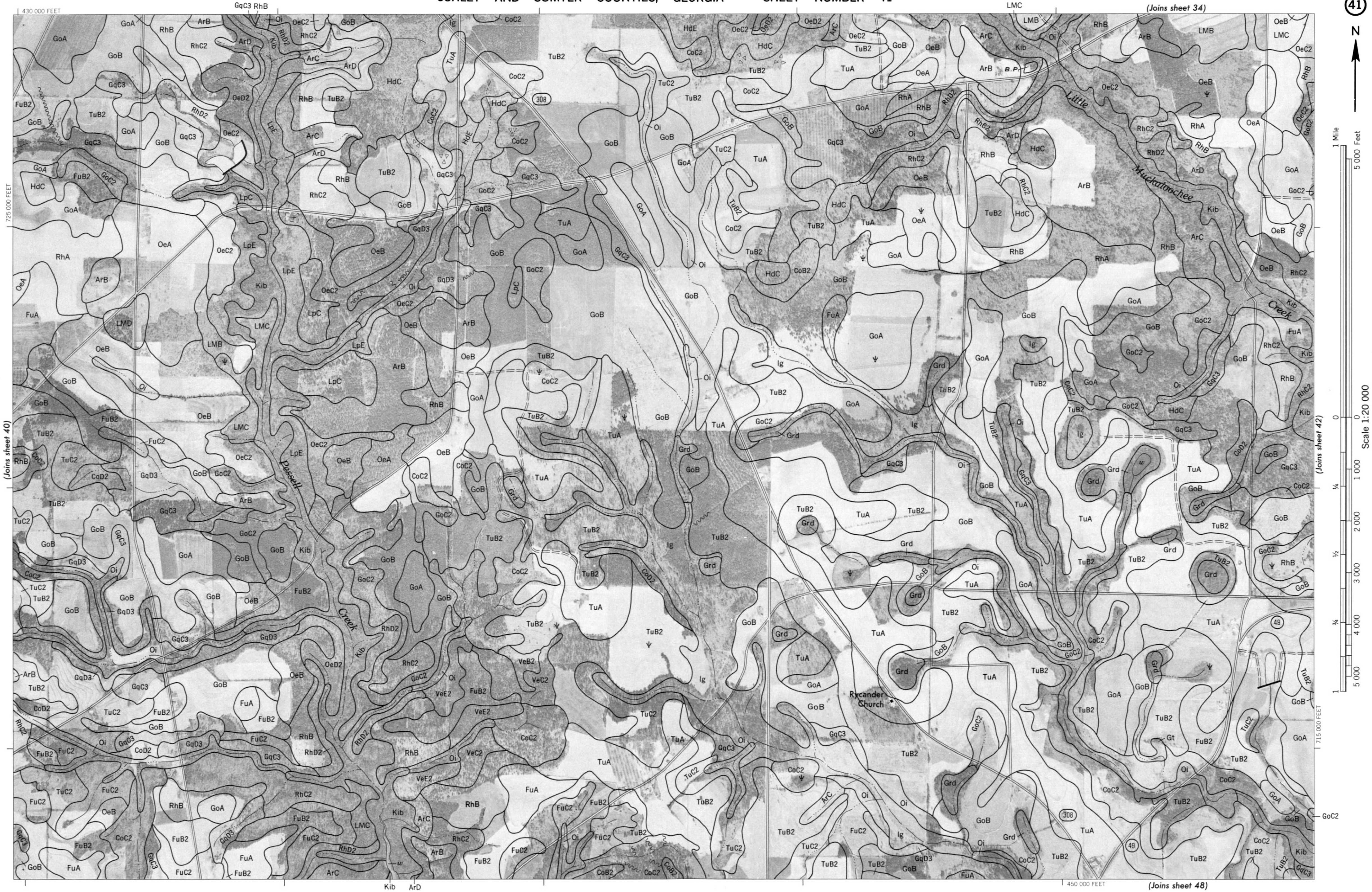
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

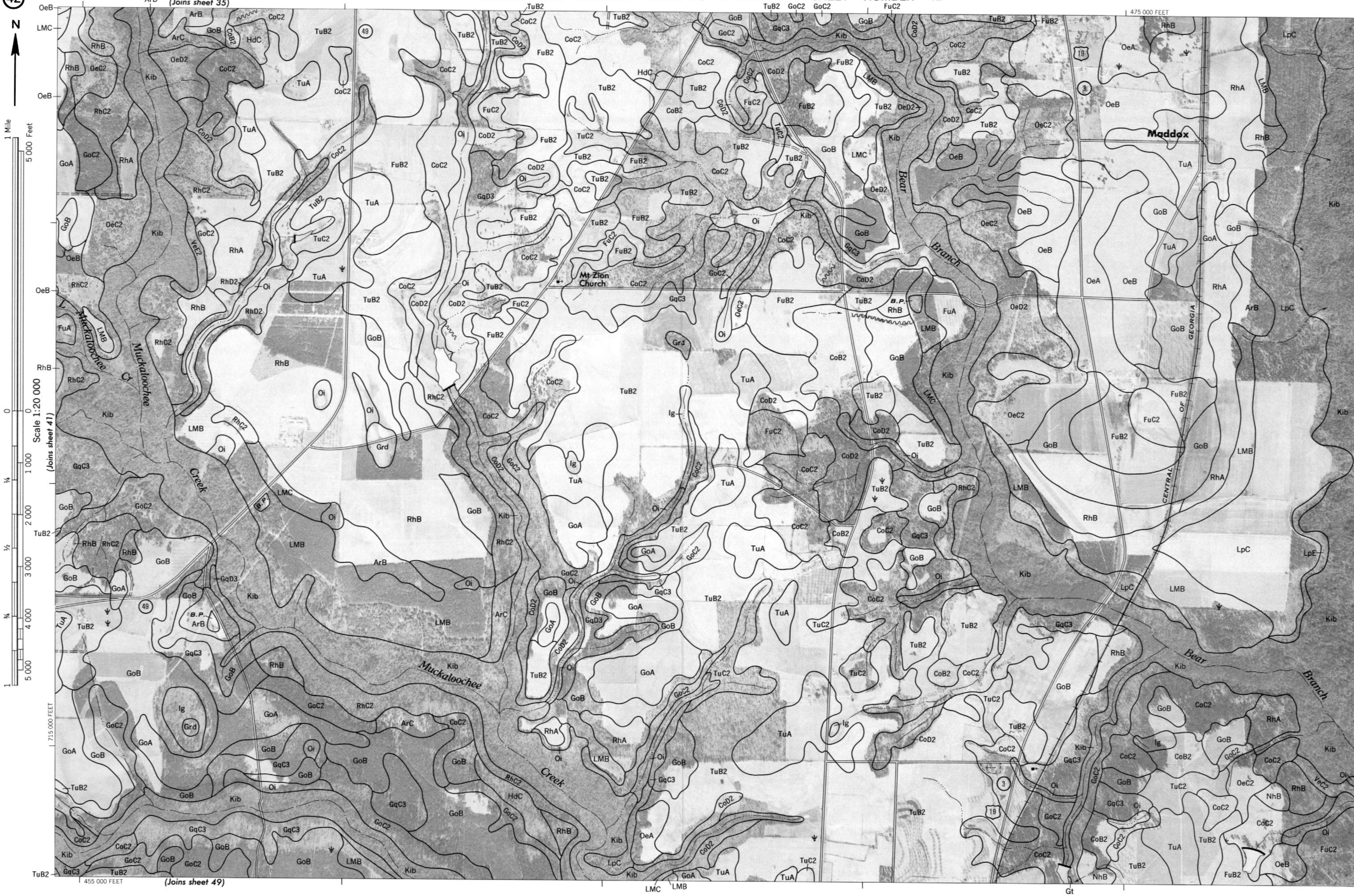
SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 40

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 41

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

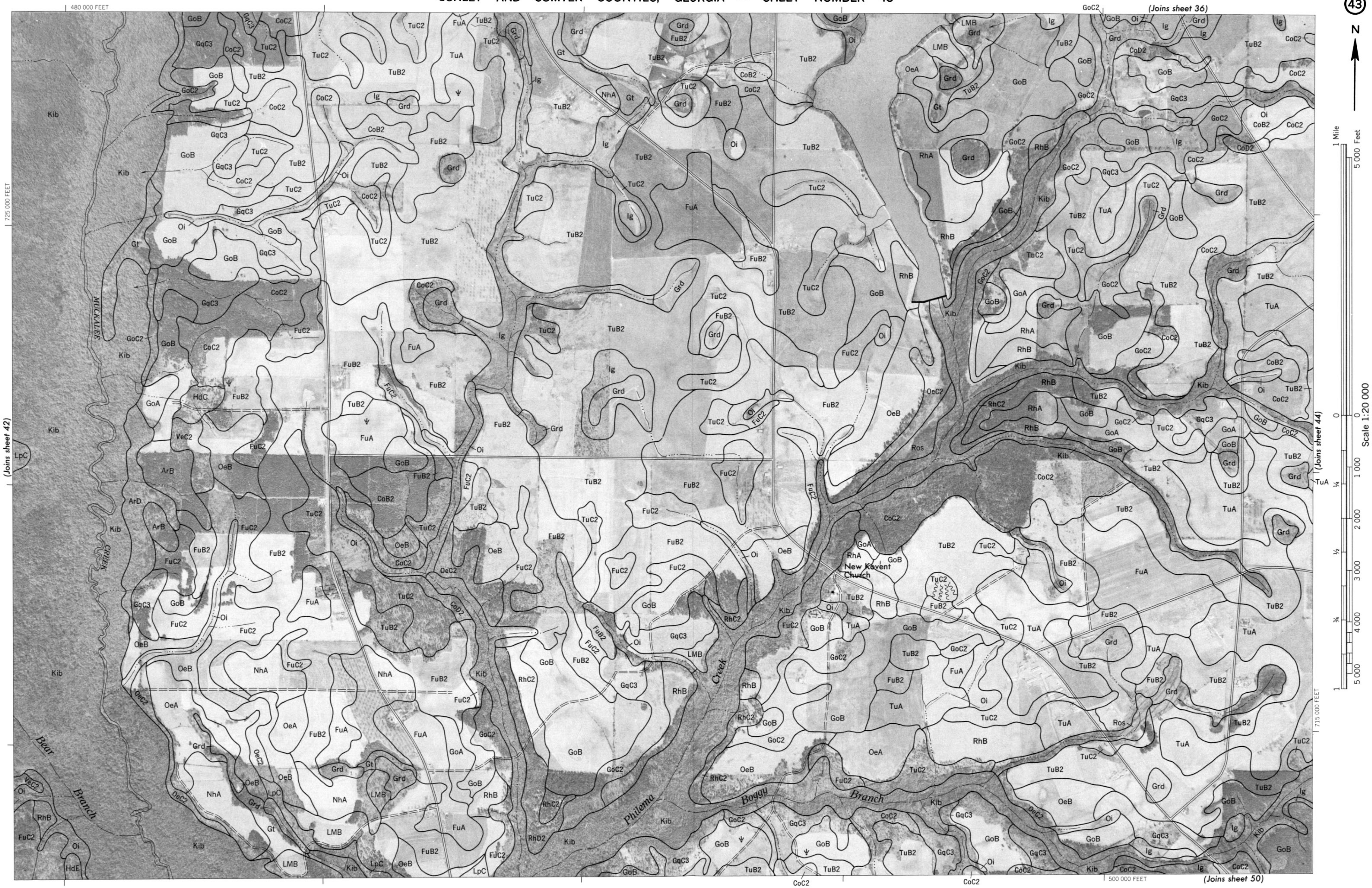


SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 42



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.



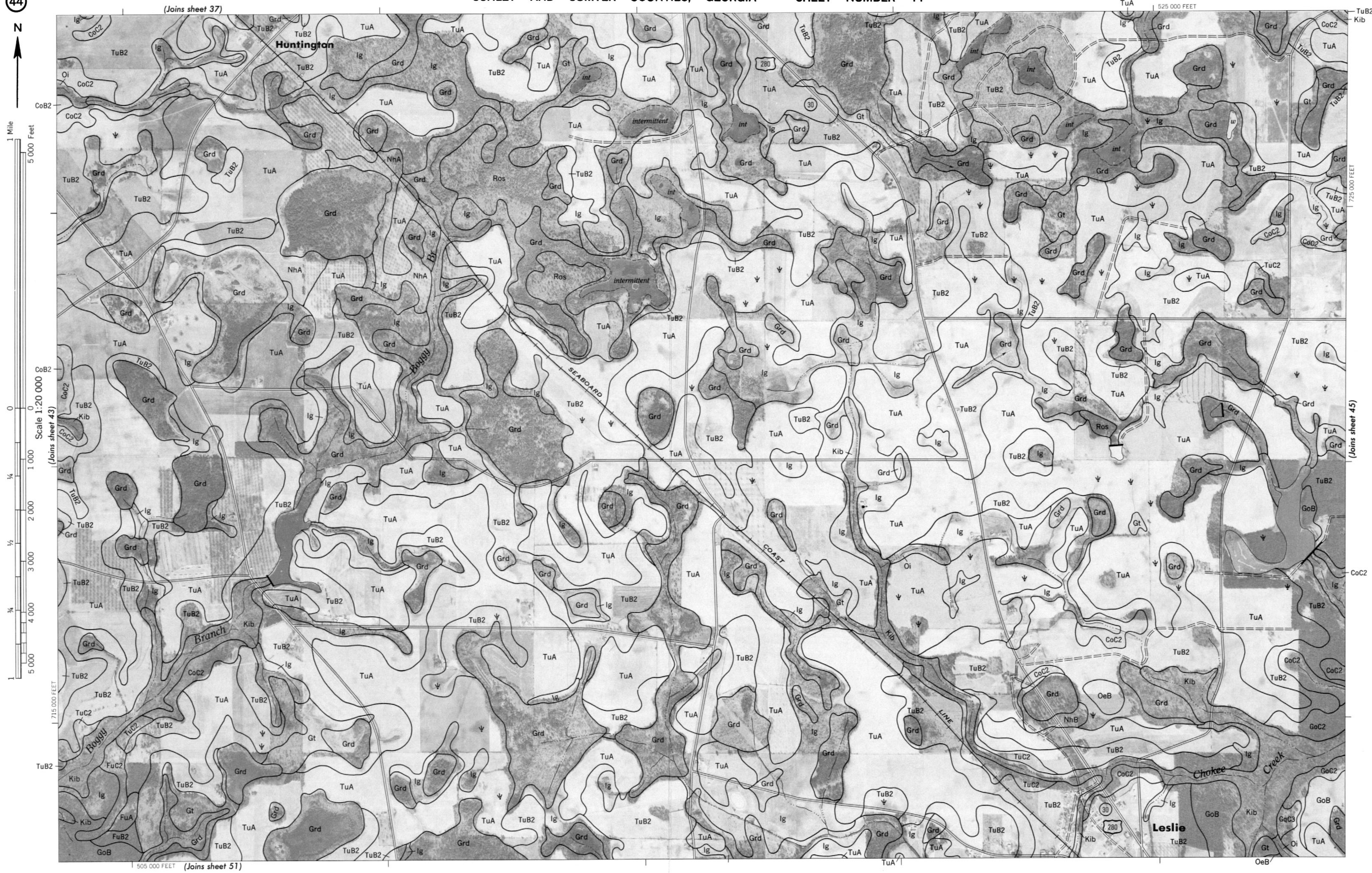
43

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 43

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

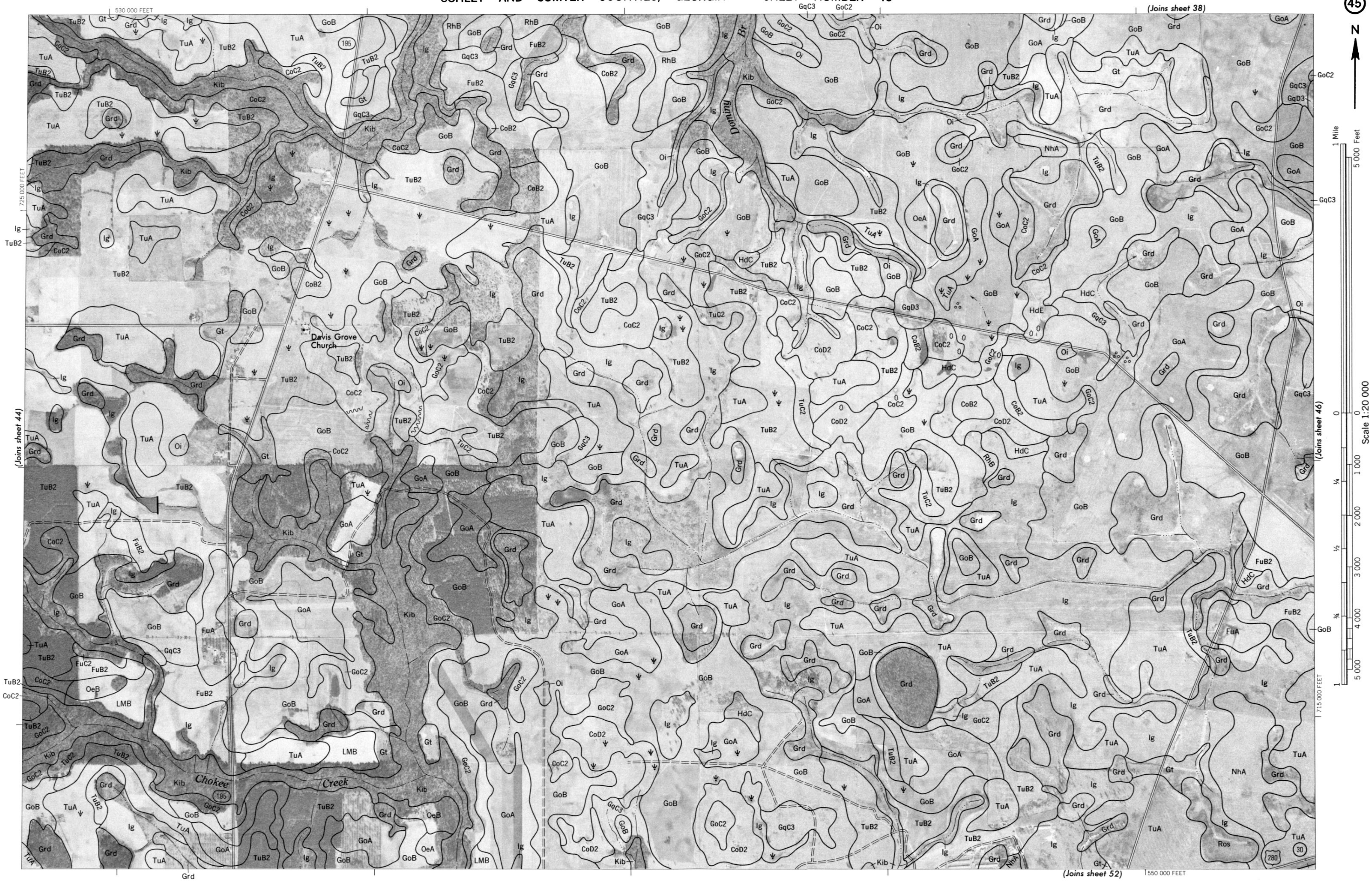
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 44



Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

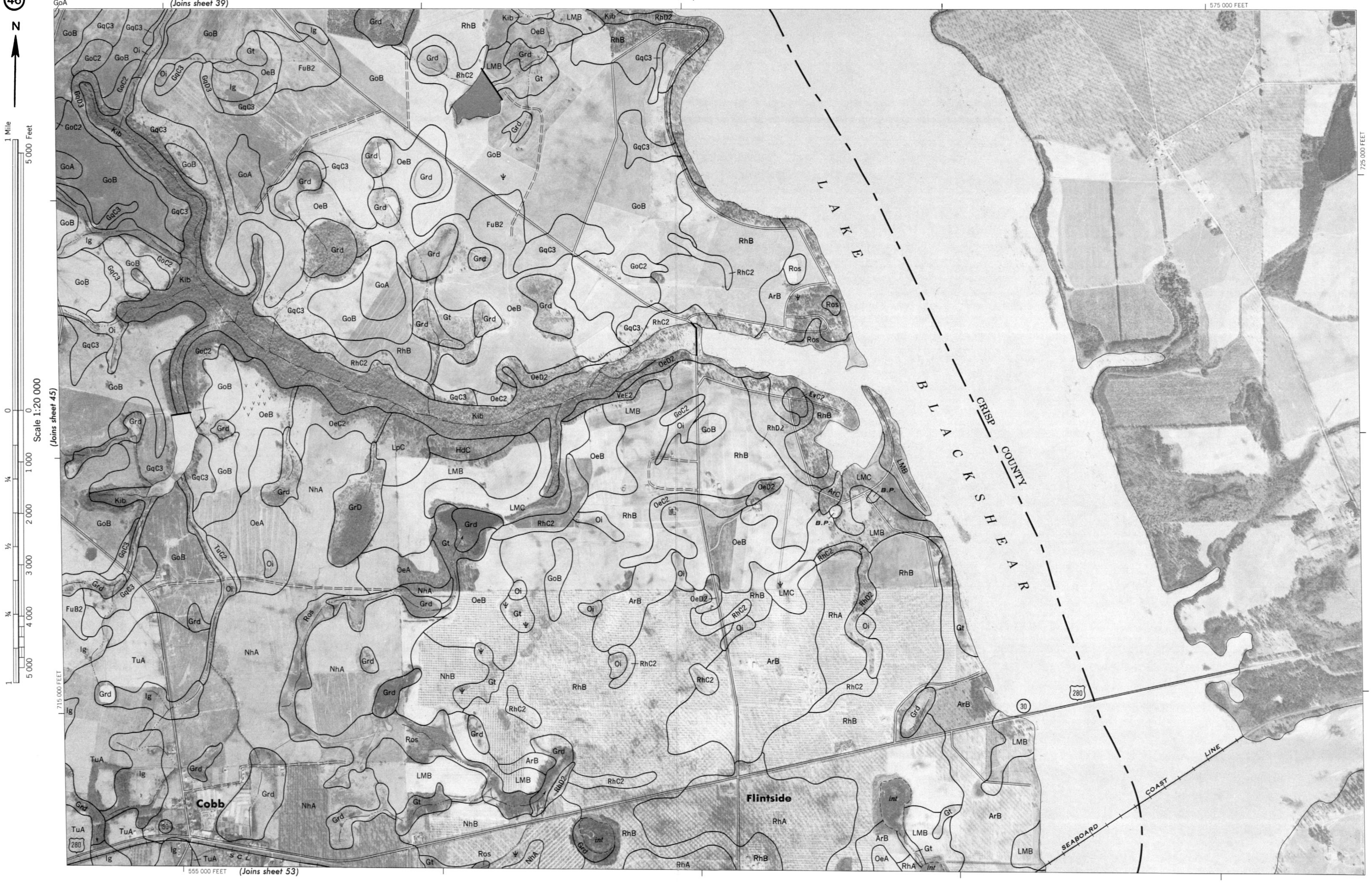
SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 45



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 45

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 46



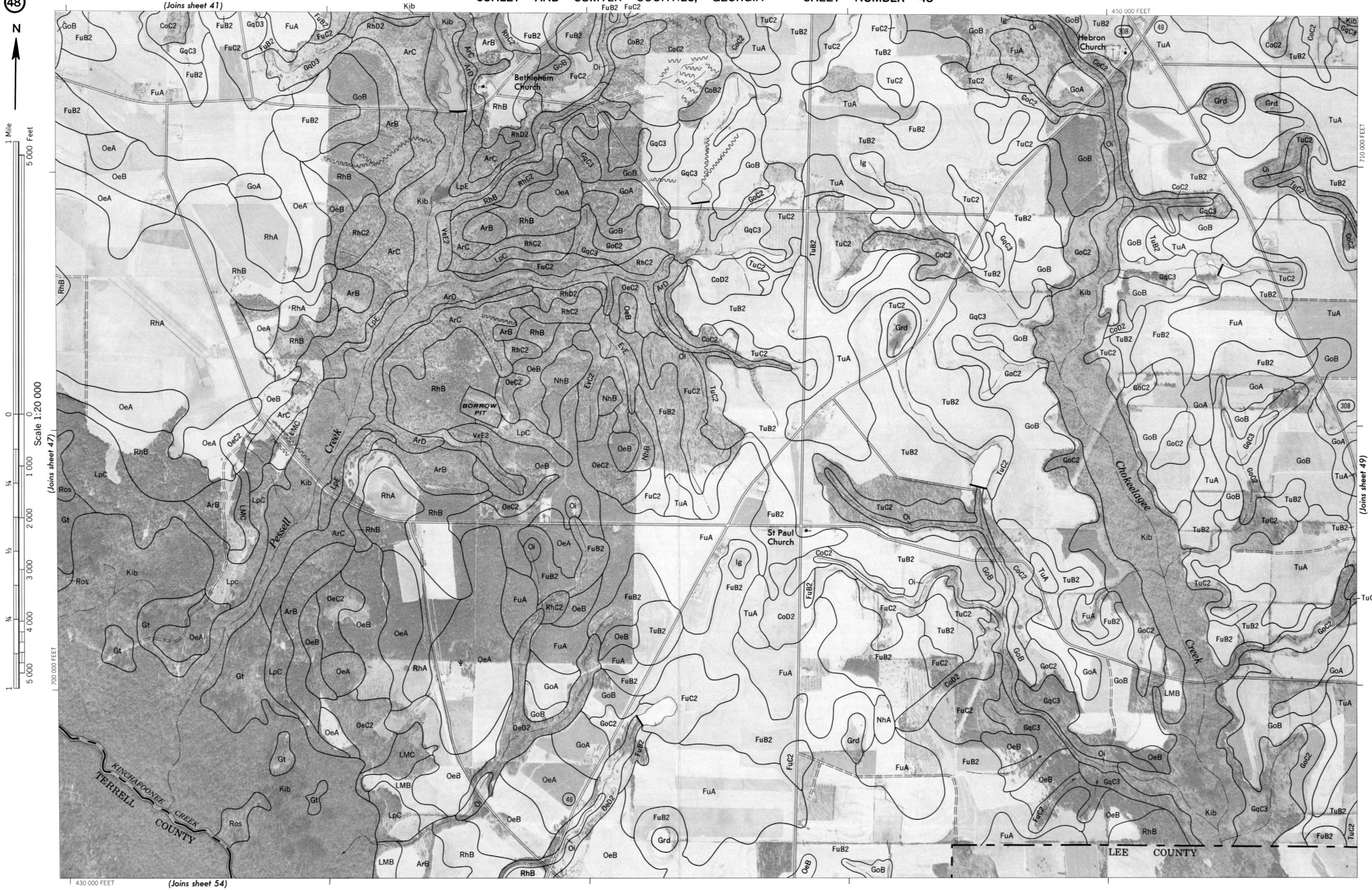
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 47

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 48

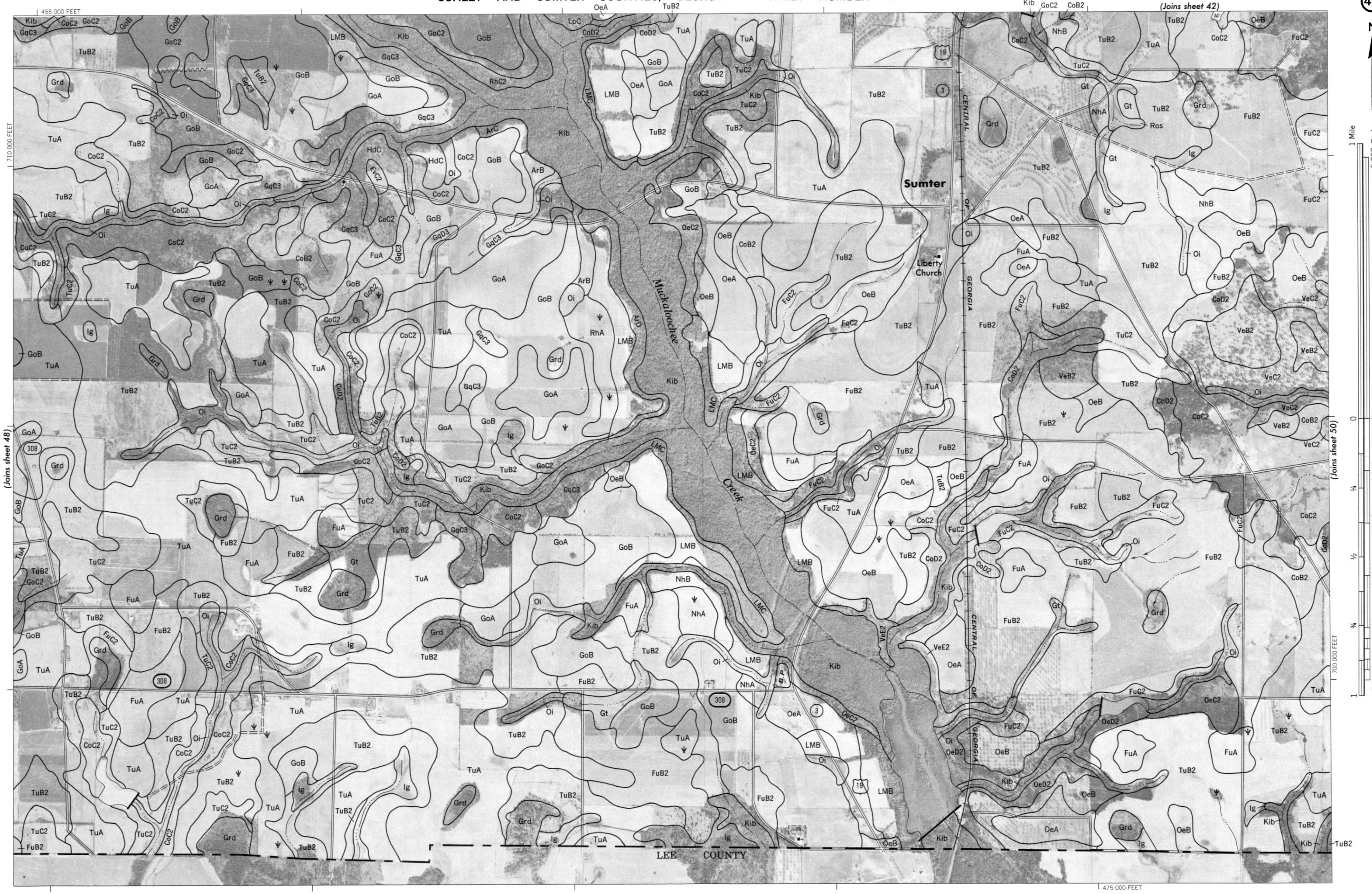


Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 48

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 49



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 49

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

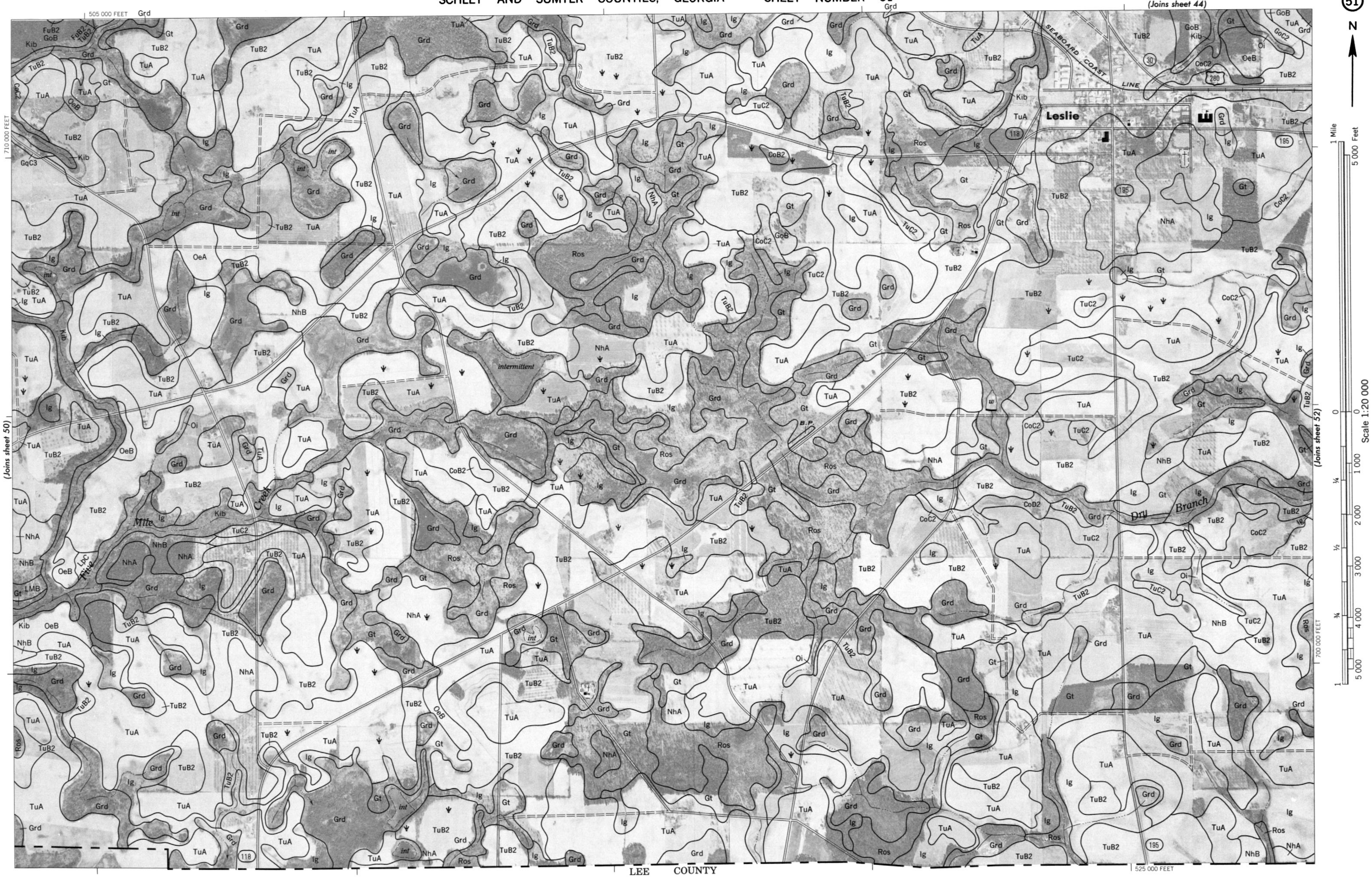
50

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 50

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 50



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 51

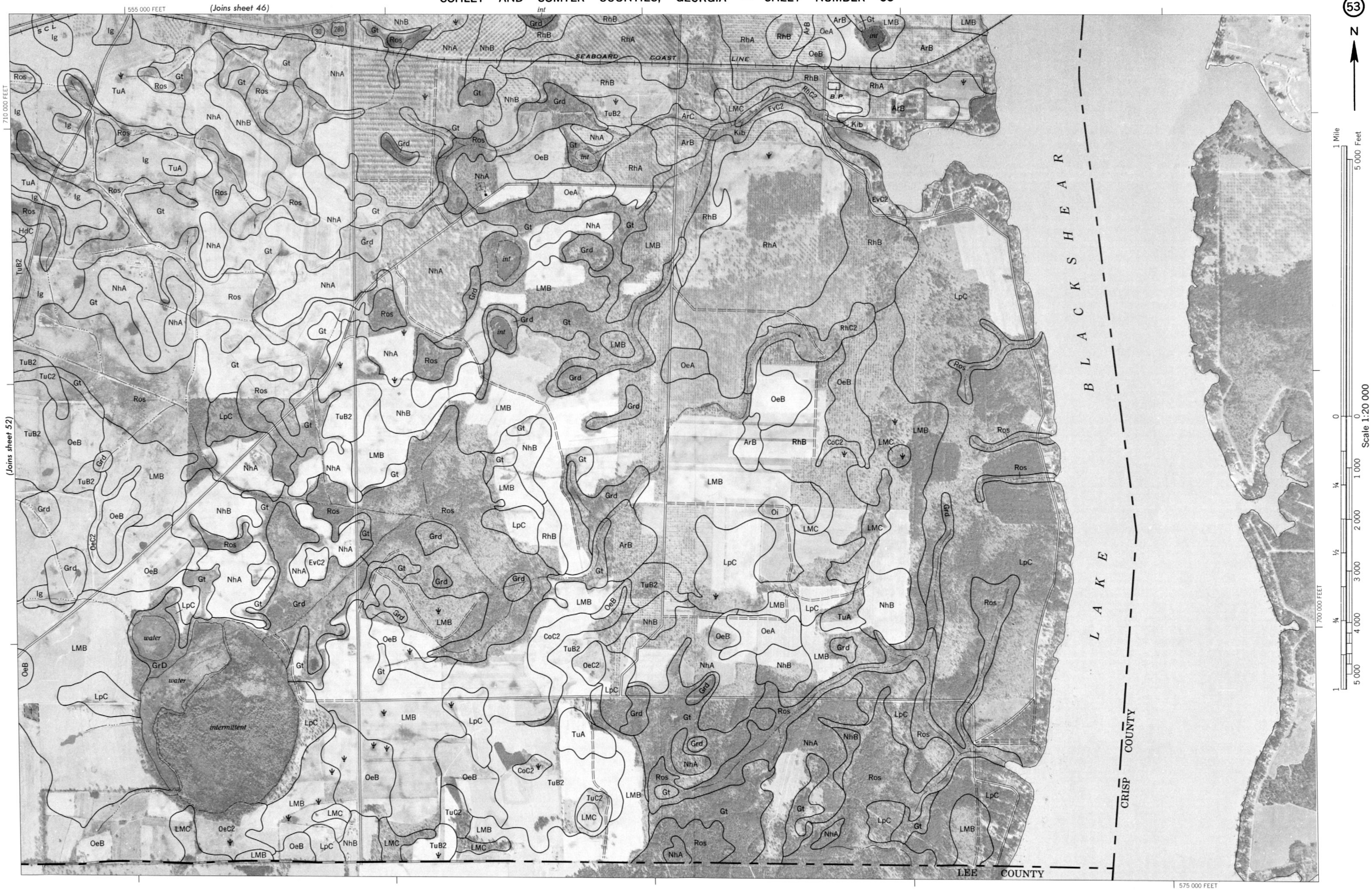
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.
Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 52

1 Mile
5 000 Feet
Scale 1:20 000

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 53



SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 53

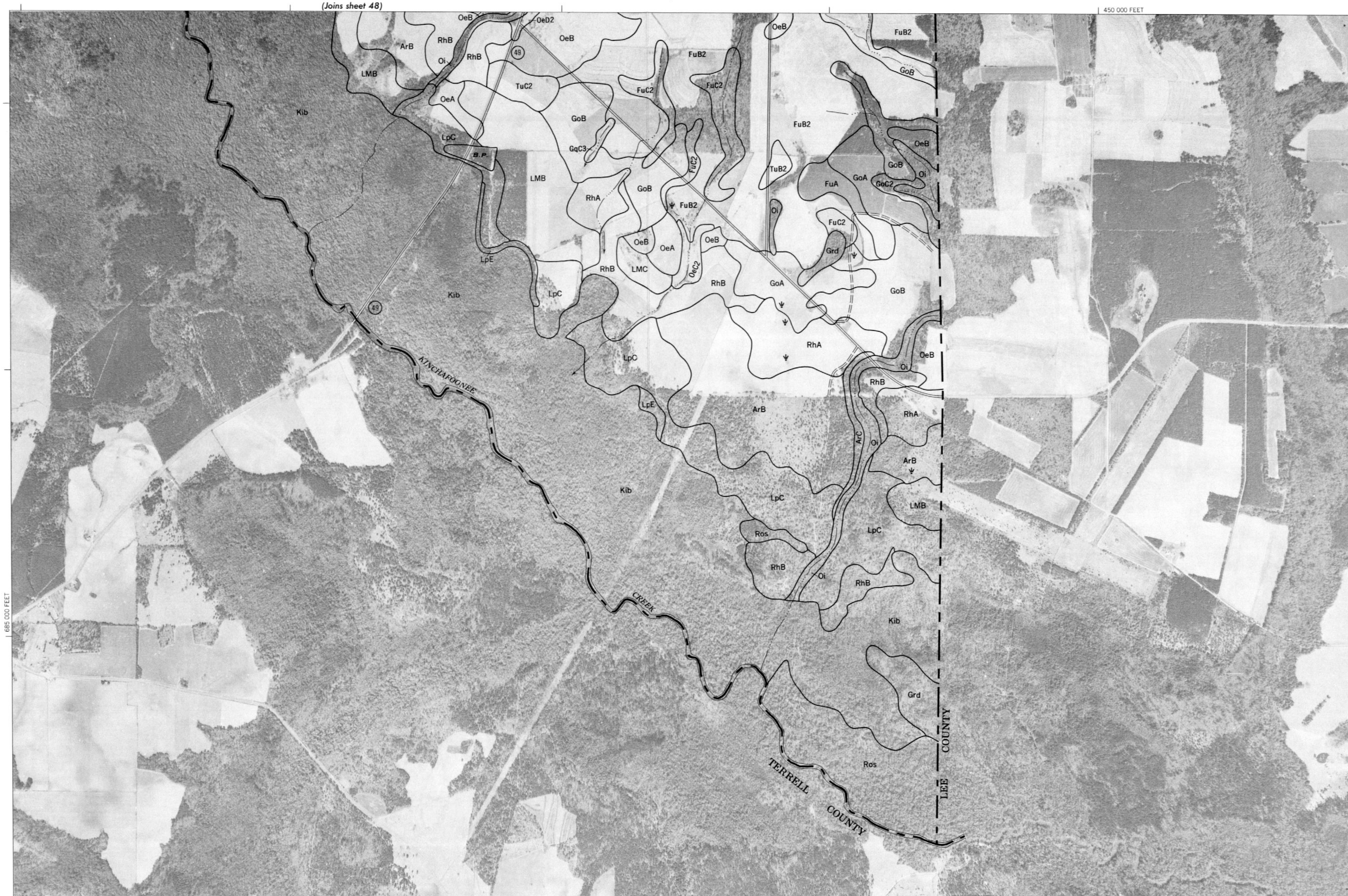
This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations. Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

54

SCHLEY AND SUMTER COUNTIES, GEORGIA — SHEET NUMBER 54

(Joins sheet 48)

N



1 Mile
5 000 Feet
0
0
Scale 1:20 000
1 000
¼
2 000
½
3 000
¾
4 000
5 000
1

Photobase from 1971 aerial photography. Positions of 5,000-foot grid ticks are approximate and based on the Georgia coordinate system, west zone.

This map is one of a set compiled in 1972 as part of a soil survey by the United States Department of Agriculture, Soil Conservation Service, and the University of Georgia, College of Agriculture, Agricultural Experiment Stations.

SCHLEY AND SUMTER COUNTIES, GEORGIA NO. 54